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Clinical Lectures.

SURGERY OF THE GALL-PASSAGES AND LIVER.*

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The surgical treatment of diseases of the gall-passages and liver has been given a great impetus during the last decade, and has developed into a most successful and promising branch of operative surgery. The therapeutics advocated in the various affections of these parts are by no means uniform, but even to-day are subjects of discussion and controversy. It would appear to me, therefore, that an unbiased description of the results obtained in the treatment of a series of diseases of the liver and gall-passages would be of value to the profession.

These cases are divided into the following groups:—

1. Diseases of the gall-passages.
2. Abscess of the liver.
3. Subphrenic abscess.
4. Echinococci of the liver.
5. Injuries of the liver.

1. DISEASES OF THE GALL-PASSAGES.

The most frequent cause for surgical intervention in the above is the presence of stone in the gall-bladder or ducts, and one which has been productive of excellent results in these diseases.

Gall-stones are caused by a precipitation of bilirubin, bilirubinate of lime and cholesterin upon the detritus and epithelial masses, in places where the gall becomes stagnant. This, of course, occurs most frequently in the gall-bladder. According to Naunyn, the starting point of such a concremental formation lies in a "desquamative angiocholitis." He is inclined to believe that a desquamative inflammation of micro-organisms is causative of this result. Any factor which tends to augment a stagnation of the gall, augments as well the formation of gall-stone. Among these may be principally mentioned the conventional dress of women of the present day, compressing as it does the region of the liver; or again, the compression exerted by the abdominal organs during pregnancy. These facts amply explain the more frequent occurrence of gall-stone in women than in men. A change of the chemical composition of the gall, productive of the formation of precipitates, is as yet an unproven theory for the cause of gall-stone.

Gall-stones may exist without exciting any symptoms, either untoward or otherwise, and will be only discovered at an autopsy by chance. In about one-tenth of all the bodies of adults upon which post-mortem examinations are made the concretions are found. They have been found to be five times more frequent in women than in men. Nevertheless while their presence may frequently be productive of no harm to the patient, they may occasion both severe and dangerous symptoms. In the more favorable cases they may be pressed through the gall-duct and evacuated by the bowels. But even this passage of the stone through the gall-duct occasions most agonizing pain. Those frequent gall-stone colics which are unrelieved by any internal medication Langen-

* In translating this admirable lecture by Dr. Körte, we have made no effort to abridge it, fearing thereby to mar the completeness of an article which must doubtless be looked upon as being the most exhaustive monograph on the subject in any language.

The lecture was delivered before the Free Meeting of Surgeons, in Berlin, and it appears in the German in Volkmann's Collection of Clinical Lectures. Owing to its length we are obliged to publish it in several parts.

buch considers as justifiable indications for surgical intervention. So soon as a gall-stone has attained a certain size, it can be no longer passed through the gall-duct, and then serious difficulties and dangers to the patient are likely to develop. If the opening of the ductus cysticus becomes occluded, then "retention-cysts" of the gall-bladder are developed—*hydrops cystid. felleæ*—which by means of an increasing tension and fruitless contractions of the gall-bladder are in a position to excite serious difficulties. The results are considerably worse when the stone becomes fastened in the ductus choledochus. In this event the gall is shut off from the bowels, the digestion suffers, and the stagnation of the gall in the liver causes an absorption of the biliary substances into the blood, occasioning the condition known as deletery cholæmia. By means of the pressure of the incarcerated concrements, the walls of the gall-bladder or ducts become weakened, and perforation can follow. The most fortunate termination of this process is where the stone breaks its way into the bowel, although even this is accompanied by most severe symptoms. If a perforation into the abdominal cavity occurs, the outcome is likely to be still more serious. By means of a migration of microörganisms a suppuration of the gall-bladder can occur—an empyæma—complicated with all the dangers consecutive to an intra-abdominal suppuration.

It is not the gall-stone diseases in themselves that call for surgical intervention, but rather the various conditions which the diseases give rise to, especially when internal medication has been proven fruitless or the nature of the complication (mechanical obstruction) renders its inutility obvious.

In the treatment of this disease there is no concurrence between internal medicine and surgical interference, but the latter steps in as a remedial agent only when the former has failed. Here, as in all diseases in the cure of which both great branches of the healing science may be of value, a special education of the physician is of great necessity. The surgeon who intends to operate in diseases of the gall-bladder must intimately understand the normal course of these diseases, and the physician, on the other hand, must thoroughly understand where and when his duties should be supplemented by those of the surgeon. With such mutual assistance the welfare of the patient—our *suprema lex*—is best advanced.

The indications for operative interference may be tabulated as follows:

1. Frequently recurring gall-stone colics which are unrelieved by internal medication. This indication is a relative one, and must be modified by individual circumstances.

2. The development of lasting enlargements of the gall-bladder, after such attacks of colic, is accompanied by retention of the bile. Here the existence of large concremental formations may be taken for granted, which may of course give rise to any of the dangerous complications spoken of previously. Since the supervention of these most grave complications can occur at any time and render our surgical interference too late to do any good, I therefore consider such enlargements of the gall-bladder, accompanied by retention of gall, as an indication for operation, especially among the working classes, among whom physical labor is necessary. In case, however, of the existence of retention and enlargement of the gall-bladder, unaccompanied by any colic or other symptoms, operation should be delayed. Indeed, the patients in question would, under such circumstances, scarcely be expected to submit to an operation.

3. If after severe attacks of colic the gall-bladder continues to remain tender and enlarged, the existence of an inflammatory process in and around the gall-bladder may be accepted, which in its turn points to the existence of concremental formations with a weakening of the parts. In such cases, after the futile use of internal medication, there should be an operation.

4. When the existence of fever, pain and swelling point to the existence of a suppurative process, operation should, of course, on no account be delayed.

5. Symptoms of closure of the gall-duct, should, after the failure of any internal therapy, be regarded as an indication for operation.

In the confirmation of diagnosis, and the above indications, stress should be laid upon the fact that gall-stone colics are frequently not recognized as such, but are

called by all sorts of names, but especially "cramps." This fact is called attention to by Fürbringer.*

Regarding the distinction between tumors of the gall-bladder, gall-stone diseases, and all other affections of neighboring parts, I would say that frequently hemispherically protruding and quickly growing tumors of a malign nature can be mistaken for distended gall-bladders. As an example of this I will cite a case later on (Case VII). Continued observation of the case, or exploratory incision—which I consider fully justifiable in such cases—will remove all doubt. A complication of cholelithiasis with carcinoma of the gall-bladder or liver can also occur (see Case X), Marchand having perhaps been the first to call attention to this fact. An enlarged and especially movable kidney can be mistaken for an enlarged gall-bladder. Two of my female patients came to me with the diagnosis of "floating kidney." In such cases the kidney should be held back with the fingers of the left hand, while the right hand palpates the region of the gall-bladder. This will usually suffice to clear away any doubt on such a score. The slight movement of the gall-bladder during respiration cannot be regarded as any definite mark, since frequently the kidneys also move sychronously with the respiration. Further, in such cases where the gall-bladder is considerably enlarged and adherent through inflammatory processes, this respiratory movement may be entirely absent, or else only minimal. In general, the enlarged gall-bladder will be found closer to the anterior wall of the abdomen than a renal tumor or floating kidney. Again, the latter will be more distinctly felt anteriorly if pressed forward from the back. When the colon is inflated with air it lies in front of a renal tumor. Such is, however, not the case with tumors of the gall-bladder—indeed, it would be impossible. Renal colics can, as Fürbringer† has noted, be frequently confounded with gall-stone colics, especially if only the patient's evidence is taken into consideration.

The expulsion of the gall-stones through the bowels can only be confirmed by the most careful watching of the stools. When in spite of the passage of these gall-stones, the gall-bladder still remains enlarged and painful, it may be taken for an indication that larger concrements still remain, which are of such a size as not to be able to pass through the gall-ducts.

Further, a growth in the region of the pylorus may be mistaken for an enlarged gall-bladder. Careful palpation, however, will generally reveal the fact that in cases of pyloric tumor, one is able to insert the fingers between the edge of the liver and the tumor; again, the distention of the stomach with either air or water will aid in the confirmation of the differential diagnosis. When distended the fundus of the stomach is pushed forward and the pyloric growth will change its position, or in certain cases disappear almost entirely. By these means any mistake of diagnosis in this direction may be entirely avoided.

Cysts of the liver may also be mistaken for the enlarged gall-bladder; this happened to me in a case of closure of the gall duct. The history of this patient will be given further on (Case XII). There was a round prominence somewhat larger than a walnut on the edge of the liver, and in the region of the gall-bladder. Laparotomy revealed the fact that it was a cyst of the liver. The shrunken little gall-bladder lay under he edge of the liver and could not be felt at all. In a few cases I have also found some of the liver tissue lying over an enlarged gall-bladder. This occurrence was first called attention to by Riedel.*

Right here I wish to warn most emphatically against the performance of any exploratory punctures in cases of enlargement of the gall-bladder. This can only be without danger when confirming adhesions to the abdomen. After opening the abdominal cavity, I in all cases punctured the gall-bladder, and found that even the punctures of the smallest hypodermic needle were sufficient to cause an efflux of the bile. The great danger of such punctures prior to the opening of the abdominal cavity will, therefore, at once be seen. Although pure and undecomposed gall may not have any deleterious effect upon the peritoneum, it must be remembered, as Naunyn has proved, that micro-organisms may exist in the gall-bladder, especially in empyæma of this organ. The bacteria found by

*Verhandlungen d. Kongress f. Innere Medicine, 1891.

†Loc. cit

*Berlin Klin. Wochenschrift, 1888, No. 29.

Naunyn and also by me in the gall-bladder (see Case X), and named *coli commune* excite most severe general peritonitis. This has been demonstrated by Dr. Alex. Fränkel, in the *Wiener Klin. Wochenschrift*, 1891, No. 13.

Since Bobbs, Marion Sims, and Kocher first performed the operation of opening the gall-bladder for stone, the operation has rapidly grown in favor and variously modified in its technique. It is termed cholecystotomy and may be completed at either one or two sittings. In contradiction to this procedure, Langenbuch in 1882 recommended cholecystectomy, or excision of the gall-bladder in order to prevent possible recurrence by the removal of the seat of its growth. Courvoisier, Merideth, Spencer Wells, Bernays, and Küster produced and performed the operation of so-called "ideal cholecystotomy," which consisted in an incision of the gall-bladder, with subsequent suture of the part. These constitute the three principal methods for the surgical treatment of cholelithiasis; which, however, may be subdivided according to the variations of the details of their technique. For the operative treatment of closure of the gall-duct other methods are of value.

My own experience in the operative treatment of gall-stone has been limited to twelve cases, eleven of these being women, and one man. The proportion shows the far greater frequency with which the disease is apt to occur in women. Besides these, two men came under my observation who were suffering from gall-stone, and in both cases operation was clearly indicated; both patients, however, refused operation and I lost sight of them. In the case of women, the influence of pregnancy was plainly discerned. All of them had given birth to children, and many gave evidence that the gall-stone colics appeared in connection with their lying-in period; although they frequently only recognized them as "cramps." In six cases there was a dropsy (hydrops) of the gall-bladder associated with frequent colics. Operation revealed stone in five of these cases, but no concremental formations whatever in one (Case VI). Four of the patients suffered with empyæma of the gall-bladder. In three of these cases stones were formed, but not in the fourth case (Case VIII). Finally, three of the patients suffered from occlusion of the ductus choledochus (one of these suffered also from suppuration of the gall-bladder and liver, and was operated upon twice). Of those operated upon three died—one case of occlusion of the gall-duct from gradual weakening (Case XII), another similar one from suppuration of the liver which had existed prior to operation (Case XIII), and the third death in a case of empyæma of the gall-bladder with stone, from carcinoma and suppuration of the liver, (Case IX). So far, therefore, I have had no death occur from the effects of the operation. I was able to dismiss all my patients without any biliary fistulæ and indeed, with a normally acting gall-bladder, although in some cases several operations were performed.

The operation of cholecystotomy was performed several times—once in a case of dropsy of the gall-bladder with stone, performed at one sitting, (Case I); four times in empyæma of the gall-bladder (Cases VIII to XI), at one sitting; twice in occlusion of the bile-duct as a preliminary operation in cholæmia (Cases XI and XIII), at two sittings. It will be seen, therefore, that I have performed the operation five times at one sitting, and twice at two sittings.

The last modification—the performance of the operation at two sittings—has been especially recommended by Riedel. I prefer the operation as performed at one sitting when it is possible, and would only resort to the double operation when (as in Case XII) the gall-bladder is so shrunken that it is difficult or even impossible to sew up this organ, or when its walls are quite fragile, or appear so thin, that it would seem that they could not hold the stitches. If the gall-bladder can be well reached and drawn into the wound, and if its walls are strong, I strongly favor the single operation. After puncture of the frequently tense and distended gall-bladder, in order to relieve the pressure against its walls, a hermetic closure may be effected. The line of incision should first be coated with iodoform-collodion, or covered with iodoform vaseline upon a piece of lint. After this one way safely cut the gall-bladder open and empty it of its contents. I believe that, if it is possible, without danger to the patient, we are justified in completing an operation at one sitting, it should be so performed, and secondly in certain cases (such as empyæma, possible necrosis

of the walls of the gall-bladder, and occlusion of the choledochus) a delay of several days is by no means a matter of little importance. The biliary fistula occurring in cases I and IX was closed plastically after a time, by means of loosening the walls, suture of the same, and covering the whole with the abdominal walls. In Case VIII the wound closed spontaneously, in Case XI the fistula was removed by establishing a communication between it and the intestine. Three of the patients died in consequence of the primary disease.

The secretion of gall—as is well known—does not occur continually, but periodically, and is especially copious a few hours after meals. Some patients apparently secreted no gall during the day time, while the flow was copious during the evening and night. Contrary to Naunyn's opinions, I have given Karlsbader salt (1 teaspoonful of the salt in half a pint of water) and salicylate of soda (2 to 3 grammes in water), in two cases of occlusion of the gall-duct, and in many cases of simple biliary fistula and have observed a decided increase in the secretion of the gall. I would ascribe to these remedies a decided cholagogue action.

I consider the operation of cholecystotomy the most rational procedure in empyema of the gall-bladder, in diseases of the walls of the gall-bladder, and, further, in occlusion of the choledochus in order to establish an exit for the bile and save the patient from cholæmia.

In simple concremental formation in the gall-bladder, unaccompanied by any disease of its walls, and where the gall duct is not occluded, I prefer a simple opening of the gall-bladder, emptying its contents, and subsequent closure of the incision—the so-called "ideal cholecystotomy." This operation was performed by me in five cases (Cases II to VI).

After the opening of the abdomen over the distended gall-bladder—and for this purpose I prefer a transverse incision parallel to the ribs, rather than a longitudinal incision, since the former gives a better field of vision to the operator—the bladder and duct are carefully and directly examined by digital palpation, and any adhesions which tend to render the examination difficult, loosened. Then the gall-bladder is drawn forward as much as possible, and the abdominal cavity completely protected by sterilized or iodoform gauze, which is plentifully packed around the bladder. By means of puncture with the exploring needle, the character of the contents of the gall-bladder is determined, and if the fluid drawn up into the syringe is not putrid, and contains no pus, then the patient is inclined somewhat towards the right side, and the gall-bladder incised and emptied of its contents. The stones are usually washed out with ease, or may be removed with the "stone-spoon." Difficulties are met with if the stone is wedged in the cyst, and these are only removable after considerable effort and great pains on the part of the operator. For this purpose the blunt hook will frequently be found a valuable instrument. In one case (Case III) the stone was lightly wedged in the cyst and all efforts at removal were unavailing. Finally, I inserted my finger under the gall-bladder in the abdominal wound and executed a pressure, as though I were squeezing a cherry-pit out of the fruit. The stone was thus easily removed. It will be readily seen that in this case if the abdominal cavity had been closed by suture to the gall-bladder this procedure would have been rendered most difficult, or indeed impossible. The possibility of such an occurrence points, in my mind, to the superiority of this operation over the "ideal cholecystotomy." After the removal of the deepest stones the golden-yellow bile will appear in the bladder, showing that the communication with the liver is now free. In every case I have endeavored to sound the ductus cysticus, but the sound is always caught in the folds of the mucous membrane unless the duct has been very much distended by the presence of stones. This is easily understood since the mucous folds are in the form of a spiral. So far I have been unable to pass a sound from the ductus cysticus into the choledochus or even into the intestine. It will be seen, therefore, that by means of sounding alone we cannot prove the existence of a free passage, while palpation from the abdominal cavity is a most important aid in determining this.

A free passage through the choledochus—which should be determined before the performance of this operation—can only be proved or disproved by an examination of the fæces, or a digital examination of the choledochus.

After the removal of all concretions from the gall-bladder, the latter should be

disinfected with some solution as little poisonous as possible. For this purpose a one-half per cent. solution of lysol, or a solution of salicylic and boric acids will be found applicable. After this the gall-bladder is washed out with sterilized water, great care being taken to prevent, as far as possible, the fluid entering into the abdominal cavity. If we are convinced that the walls of the gall-bladder are intact, we can then proceed to close the opening with two rows of sutures, similar to those used in suture of the intestines. It will be found, however, that these sutures are more easily applied upon the gall-bladder than upon the intestine, since the walls of the former organ are considerably thicker than those of the latter.

The first row of sutures brings the edges of the incision together, and the second closes the peritoneum over it. Whether one should use the continuous or interrupted suture is entirely a matter of preference; personally I prefer the latter, since I consider that a more exact closure of the wound can be effected. For the suture material I have principally used silk thread, but lately have employed catgut in its place, for the reason that I have found that even when the most stringent aseptic measures have been employed the silk sutures are apt to slough out. When possible, it is well to bring the mesentery over the line of suture of the gall-bladder, and to fasten it with one or two stitches. This membrane becomes so rapidly adherent as to form an excellent protective covering. In the first few cases that I operated upon I fixed, or attached, the peritoneum to the peritoneum at the abdominal wound, for safety's sake, but later abandoned it without incurring any untoward results. In the endeavor to obviate the possible bursting of the sutures of the gall-bladder, Senger and Wölfler have practiced a fixation of the gall-bladder to the abdominal wound, opening it a few days later and emptying its contents; Wölfler would not return, or rather, resink the gall-bladder to its natural position for about nine days. The abdominal wound would be closed all but a few stitches which were left loose. In this opening a strip of iodoform gauze was inserted reaching to the suture of the gall-bladder. After the lapse of four or five days this was removed and the abdominal wound entirely closed. This precautionary measure as a guard against the possible rupture of the cystic suture, can at all events, do no harm. In my experience the gall-bladder healed very rapidly in four cases, in one a small but rapid closing fistula was formed (Case VI).

(*To be continued.*)

NEW OPERATION FOR THE RADICAL CURE OF ABDOMINAL HERNIA.

In a pamphlet (published by I. Artero, Rome, 1892), Bottini says that to attempt to close up, by itself, the passage down which the hernia has travelled, or to block up the external orifice by itself, is a delusion; the resulting resistance is far too weak to withstand abdominal pressure. It is the internal orifice, and this alone, which should be closed (by sutures). This is done by bringing together its margins, without disturbing the anatomical relations of adjoining structures, whether the hernia be oblique or direct. The sac is a secondary matter; it may be excised—all or part—or left, according to circumstances. Whether the hernia be free, incarcerated, or strangulated makes no difference; the methodical closure of the internal opening is the only thing aimed at. The hernia is thoroughly opened up along its length, the aponeurosis of the external oblique, and the fibres of the internal oblique are reflected on a director, and the sac is laid bare, and very carefully and thoroughly isolated. Then the bowel is returned, the sac being incised or not according to circumstances; in congenital herniæ, incision is best avoided. Two Hagedorn's needles armed with catgut are passed, the first from within outwards, embracing not only the free margins of the internal oblique and transversalis, but the aponeurosis of the external oblique; the lower suture passes well into the thickness of Poupart's ligament. Then the needles are withdrawn, and a finger is introduced into the orifice to control the tightness of the threads which are now drawn up. The patient is directed to cough, and if any bulging be felt, a third suture may be inserted; this however, is seldom necessary. After a fortnight, the patient is perfectly cured, no truss or bandage being afterward required. Nine femoral, twenty-one inguinal, and one umbilical herniæ were thus operated on, all with perfect success. —*Brit. Med. Jour.*

PREPARING THE FIELD OF OPERATION; CIRCUMCISION; INTESTINAL OBSTRUCTION; APPENDICITIS.

By DR. R. H. M. DAWBARN,
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Gentlemen:—This patient was presented to you at the last clinic, and you remember a small fatty tumor was removed from the back. The result has not been so good as was expected, for there has been some suppuration, an occurrence which is by no means common here, but still is occasionally met with at our clinics, probably from the necessarily hasty methods adopted for cleansing the field of operation. An investigation carried on at the Johns Hopkins University has shown that the plan of disinfecting the skin at least twenty-four hours before the operation is an eminently wise one, as the microbes lodge in the hair follicles and in the deeper layers of the skin, and are therefore not removed by the ordinary washing just prior to operating. The best results are obtained where the parts are first thoroughly disinfected, and then covered with a wet bichloride dressing for a number of hours. The same investigator found that the usual methods of cleansing the hands failed to sterilize them, and the most approved method of effectually sterilizing the hands is the one which I would recommend you to employ in sterilizing the patient's skin, as it can be done quickly, is very efficient, and is applicable to such cases as those upon which we operate here in our clinics. The method consists in thoroughly wetting the skin with a saturated solution of permanganate of potassium in hot water. This stains the skin black, but the next step, which consists in washing with a saturated solution of oxalic acid, removes this stain, and the process is completed by simply washing off the oxalic acid. I am accustomed to carry in my satchel, crystals of permanganate of potassium and of oxalic acid, which can be readily dissolved in water when wanted. This method is convenient and cheap, and I heartily recommend it to you.

As I have been asked to fill this hour today for a colleague I shall adopt my usual custom under such circumstances, and speak on several topics which are of such practical interest and importance, that certain members of the class have requested that they be given special consideration.

CIRCUMCISION.

First, I shall say a few words about the operation of circumcision. I am a firm believer in doing this operation upon every child. Most genito-urinary surgeons will tell you that the Jews have much less venereal disease than any other race, and this cannot be because they are more virtuous, but because there is much less surface to be infected, and that surface is much less sensitive and liable to abrasion. The great majority of young men, probably ninety-five per cent., indulge in illicit intercourse before they are married, and we may as well face this fact. We hope in our minds that our sons will not belong to this great majority, but we know in our hearts that they most probably will, and hence we should do everything we can to avert the evils connected with such habits of life. The simplest way of doing a circumcision is to slit the prepuce along the dorsum, but I do not usually adopt this plan, as it is followed by great œdema which frightens the friends unnecessarily. I believe in removing all the prepuce except enough to cover the corona, and in doing this, great care must be taken that the mucous membrane be pulled down and cut along with the skin, otherwise you are likely to have the mortification of removing a circle of skin and leaving the mucous membrane intact. Having trimmed the parts nicely, a running catgut suture should be used, and the parts given a coating of iodoform collodion, and then dusted over freely with baby powder. In the adult, there is a tendency to erections, and consequent tearing out of the sutures, and to obviate this, the patient should be given for a day or two before the operation, large doses of bromide of sodium, and after the operation, the penis should be encircled in a coil of small rubber tubing through which cold water is kept running.

INTESTINAL OBSTRUCTION.

I shall next consider a few points regarding the diagnosis and treatment of intestinal obstruction—and first, as to intussusception. It does not necessarily involve the entire calibre of the intestine, and in many of these cases, which are especially frequent among children, a tumor can be felt, most commonly in the ileo-cæcal region. The books usually state that it is oblong in shape, but it is rare that the abdominal wall is thin enough or

sufficiently relaxed to enable you to distinctly map out the shape of the tumor. One well-known writer on children's diseases, says that whenever bloody movements are noticed in children under two years of age, the first thing to be thought of is intussusception, and although it does not follow that every time a child has bloody movements there is an intussusception, the frequency with which this condition is overlooked, justifies the warning which this writer gives. Volvulus, on the other hand, is more frequent in adults than in children, and most commonly involves the region of the sigmoid flexure. It seems rather remarkable that it should be met with in grown persons more often because in children the sigmoid flexure of the colon is proportionately larger than in adults. In volvulus, the obstruction is well marked; not even wind passes it, as a rule. Of course, it is sometimes high up in the small intestine, and then the frequent passages of fæces from below this point might lead you to suppose that the obstruction was not complete.

In most cases of suspected intestinal obstruction, the first thing the average practitioner thinks of is some laxative or cathartic, and he usually begins with a mild one, and then runs through the whole gamut to more and more severe cathartics, until probably he ends by giving some croton oil. Now, aside from the fact that croton oil is a very dangerous remedy, there are other and better ones which will suffice where any cathartic is appropriate. Just think that if the croton oil happens to be retained, what an irritant action it must exert! The only laxative I would use would be some saline, such as Epsom salts, Rochelle salts, or Hunyadi water; and if these did not act as purgatives, they will be gradually absorbed through the wall of the gut, and be excreted through the kidneys, and therefore they do not possess the objectionable features of other cathartics. If such laxatives do not relieve the obstruction, I should next think of a high rectal enema, which may be given in various ways. The plan which I believe to be original with me, consists in warming a siphon of carbonic acid water, attaching a rubber tube to the outlet tube of the siphon, and introducing this rubber tube high up into the rectum. By pressing the trigger on the siphon, you can obtain the effect of both the gas and water under pressure, and this pressure can be easily regulated in the same way. After discussing this subject before the class about two years ago, one of the gentlemen came to me and related a case of severe intestinal obstruction, where after the usual injections had failed, at the suggestion of one of the physicians present, the patient was inverted, and nearly two quarts of glycerine introduced into the rectum with a fountain syringe, and the patient kept in that position for half an hour. At the end of this time, there was a remarkably copious discharge of fæces, and the obstruction was completely relieved. We know that glycerine is a very powerful exciter of peristalsis, and the method is certainly worthy of a trial before resorting to the knife. Another method which I have never tried, but which is recommended, consists in washing out the stomach; it is said to act by exciting peristalsis, and I presume it might be successful in mild cases. We now come to the question of operation. If the patient refuses operation, I would desist from the use of laxatives, and would administer opium or similar remedies, and await events, for one well-known textbook says experience has shown that a large percentage of these cases of intussusception recover. If you do not operate early, you may expect dangerous complications, for there are usually in the later stages, firm adhesions. In both volvulus and intussusception, the best treatment in my judgment is to cut out the affected portion and make an artificial anus, and a few weeks later, operate for the restoration of the continuity of the gut, preferably by intestinal anastomosis. It is a great mistake to endeavor to restore the continuity of the gut at the time of the primary operation, although this was the common practice only four or five years ago. Of course, in advocating early operation in these cases, I take it for granted that those attempting such operations are thoroughly competent to carry out the full technique of aseptic surgery. Where there is much distention of the intestine, it may be necessary to puncture coil after coil of intestine, for, strange to say, you cannot remove any large amount of gas by puncturing a single coil. It is for this reason, that I have given up Senn's hydrogen gas test for intestinal perforation. Theoretically this is a beautiful test, but ex-

perience shows that, practically, the test does not always work, as the perforation is sometimes obstructed by a hard mass of fæces. In a number of instances in which this test was successful in revealing a perforation of the intestine, it was found that the inflation of the intestine with the hydrogen gas had caused so much distension, that coil after coil required to be punctured in order to facilitate the subsequent steps of the operation. Finally, in experimenting with this test on the cadaver, I had an experience which led me to abandon it altogether. I had produced several bullet wounds in the intestine, and was endeavoring to inflate the gut with hydrogen gas. I allowed the gas to pass through for sometime, according to the usual method in order to expel all air, but on applying a lighted match to one of the perforations in the intestine, there was a violent explosion which would have been extremely disastrous had the test been performed on the living subject. The explanation of this subject was simply that sufficient air had gained entrance through the perforation to form an explosive mixture with the hydrogen gas. The test, therefore, is both unsafe and unreliable.

APPENDICITIS.

I shall now say a few words about appendicitis, a term which embraces what was formerly called typhlitis and perityphlitis. Dr. Mc Burney claims that in ninety-five per cent of these so-called cases of typhlitis, or perityphlitis the trouble is primarily in the appendix. It was because operations were performed formerly at so late a stage that it is only very lately that we learned that the appendix is not an intraperitoneal viscus. We know now that it has in almost every case a distinct though short mesentery. The common idea that seeds and other foreign bodies of some kind or another are the cause of this condition is a fallacy. Prudden states that he has never found in his large experience a seed or pit, the starting point being almost invariably a fæcal concretion. Normally, the blind end of the appendix is held upward so that it can empty itself by gravity, but in almost every case examined pathologically, the blind end has been found hanging downward, thereby inviting, as you see, the retention of fæcal matter long enough to cause irritation.

As regards the symptoms, the patient has pain and tenderness, greatest at a point midway between the navel and the anterior superior spine of the ilium. This was first described by McBurney, and has been called "McBurney's point." At one time, he claimed that it was pathognomonic of this condition, but we know that this is not true. This point is supposed to be about opposite the apex of the appendix, and hence this is the mid-point of the incision. The symptoms may be briefly summarized as follows: (1) This special point of tenderness; (2) rigidity of the abdominal muscles on the affected side, as compared with those of the opposite side; (3) a drawing up of the thigh on the affected side; (4) the presence of a tumor, provided you see the case sufficiently late, or if the patient be etherized, so that the rigidity of the muscles is overcome; (5) the presence in most cases of a certain amount of fever: and (6) if the pus be present, possibly rigors. On these half dozen symptoms, you can base your diagnosis of appendicitis. The condition of the bowels has nothing to do with the diagnosis, because the trouble is in the appendix, although usually the bowels are somewhat constipated. The degree of fever is also not of much importance. The most important point is, shall we operate whenever these symptoms are present? We all know that many of these cases get well, but unfortunately a great many do not recover. Poultices and iodine accomplish nothing; morphine does harm instead of good by making the patient so comfortable that he will refuse an operation which might save his life. The presence of a tumor would induce me to operate in every case, because that means pus, and you cannot tell by what route it will be discharged; but if no tumor is present, I would operate whenever there is shock, as shown by cold extremities, an abnormal ratio between the pulse and respiration on the one hand, and the temperature on the other. For instance, if the temperature were 101° or lower, the pulse 120 or 130, and the respirations proportionately increased, perforation or threatened perforation is indicated in most cases. Having decided to operate, you must make preparations as for an ordinary laparotomy, as you are going to expose the intestine for several inches. It is very common to find the small intestine covering the field of opera-

tion, and much valuable time is consumed in trying to get the intestine out of the way. The following point in technique will aid you greatly at this stage. Turn the patient over so that he rests with the left side against the bed or table, and the field of operation is uppermost; then seize the edge of the gut in the abdominal opening with a retractor, and draw it forward away from the spine. This will make a cavity into which the intestines will fall out of the way, while the cæcum which has a very short mesentery cannot follow, but must remain uppermost. You next apply two ligatures and cut between them. The mucous membrane and the stump of the appendix should be scraped with a spoon, and the stump disinfected by touching with a drop of pure carbolic acid. If you find adhesions blocking off this portion from the general peritoneal cavity, be most careful not to break them up. If the appendix cannot be readily reached on account of adhesions, I carefully wash out the cavity and pack it instead of breaking up the adhesions. This is very important. Drainage is established anteriorly, either by a glass or rubber tube, with gauze both around and inside of the tube. Only the extremities of the incision are closed, the packing being brought out through the middle portion. The packing is frequently changed, the frequency depending upon the temperature and the amount of the discharge. When suppuration is ended, freshen up the edges of the wound, and unite them by sutures, carefully including the muscles, in order to avoid the liability to hernia. When the accumulation of pus is posterior, make a small opening upon the dressing forceps, close to the ilium posteriorly, enlarge this with the forceps, and draw the drainage tube in from behind, and completely close the anterior wound. This is an excellent method of drainage, because the drainage is assisted by gravity, and the tendency to hernia is avoided.

SPIRITUS OPHTHALMICUS.

This is said to be a remedy of great value in chronic conjunctivitis. The old English writers on ophthalmology used it extensively:

℞ Spiritus camphor.
Spiritus vini gallici.....ää ʒi.
Spiritus lavender.
Spiritus rosemary.....ää ʒij.

M. Sig.—Eye spirits, to be used only externally over the closed eyelids.

Communications.

THE SHURLY-GIBBES TREATMENT OF TUBERCULOSIS.*

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The iodine and gold and sodium bichloride treatment of tuberculosis, more commonly known as the Shurly-Gibbes treatment, originated with Drs. E. L. Shurly, of Detroit, and Heneage Gibbes, of Ann Arbor, in the fall of 1890, and was the outcome of numerous experiments which they have made on animals.

Owing to the furor created by the announcement that Koch had discovered a remedy for tuberculosis, some enterprising newspaper men who had heard of Dr. Shurly's experiments, succeeded in obtaining from the report of the Medical Society of Detroit and from the Harper Hospital certain facts with reference to his researches; these facts when amplified and illuminated by the brilliant imaginations of the reporters, made many columns in the daily press, which were sent out to all parts of the country. The craze over Koch's tuberculin kept alive the interest in Shurly's treatment and caused numerous physicians in various parts of the country to give it a trial.

In the early part of January, 1891, I visited Detroit to investigate Dr. Shurly's method and was so favorably impressed by the result of his experiments upon animals and the apparent improvement of a number of patients who had been treated upon the same principle, that I returned home and at once began the use of these remedies, with nearly all of my phthisical patients. Since that time I have treated in private practice over two hundred cases of pulmonary phthisis, many of whom have received this treatment. Not wishing to subject these patients to the chance of experiment, I carried out the treatment thoroughly but only as an adjunct to other measures, which seemed to me suitable. Indeed during all my subsequent use of this form of medication, it has been so associated, and therefore the results of

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treatment cannot be ascribed wholly to the iodine or gold and sodium bichloride; however, the outcome of these cases has appeared so much more favorable than those treated by other methods alone that they seem to me worthy of record and sufficient to give a fair basis for estimating the true value of this method.

In the beginning I recommended the treatment for nearly all patients, but after a short time I became convinced that it was of no great value in advanced cases, and ceased to employ it excepting in cases which had not progressed beyond the second stage of the disease; as a rule, I have not since recommended it in cases where the disease has extended beyond the upper lobe of one lung, even though cavities had not yet formed. A considerable number of these patients I have seen but a few times, some not more than once, and in many instances only a few hypodermic injections have been employed; therefore only comparatively few of the two hundred cases can properly be considered in studying the effects of the treatment.

As nearly all patients suffering from phthisis consider themselves better and often appear better for the first two or three weeks under any new treatment or that recommend by any new physician, I have excluded from my list for analysis all cases except those in whom the treatment was continuously employed for more than five weeks. Of these I find very complete records of forty-three, an analysis of which will, I believe, enable us to form a fair estimate of the influence of the treatment upon the progress of tuberculosis. Although the effect of other remedies can not be excluded, I feel safe in the assertion that many of these patients have done much better than former experience would have led me to expect; and I believe these results are largely due to the tonic and alterative effects of the iodine and gold and sodium bichloride. I am confident that none have been injured by the remedies. In the following list I have presented all cases of pulmonary phthisis treated in this manner for a period of five weeks or more without regard to the origin, stage, course or result of the disease. Of the forty-two cases which I shall report many received no benefit; several were apparently benefited for a short time in a way that could hardly be accounted for by mental impressions; quite a large percentage were much improved for several months, and in eighteen per cent. the disease appears to have been arrested. I have classified as arrested all those cases in which the progress of the disease in the lungs has been checked for several months, in which the general health continues good, and the cough and other symptoms have nearly or quite disappeared. I think it probable in all such instances careful physical examination would still reveal evidences of consolidation, though to much less extent than when the treatment was commenced.

In some of this list of cases the diagnonis has been based upon the symptoms and physical signs only, there having been no microscopic examination of the sputum, and a few have been diagnosticated as tubercular, even though microscopic examination failed to detect tubercle bacilli. In some of the cases, classified as arrested, the bacilli may still be found when purulent sputum can be obtained; in others it has been impossible to obtain sufficient sputum for examination, and in still others the bacilli cannot be found. The treatment has not appeared to me to destroy or change the appearance of these germs.

In order that each may judge for himself of the probable value of this treatment, I have given concise histories of these cases that I will not read, but which may be examined at your leisure. I have not classed any cases as cured, believing that in a disease like pulmonary tuberculosis, no patient can properly be counted cured, who has not been free from all symptoms and signs of the disease for at least two years.

REPORT OF CASES.

CASE 1.—Not benefited. July 8, 1891. Miss F. B. C., aged 21, ill five months. No hereditary predisposition. Symptoms,—soreness in the chest, night sweats, cough, expectoration, and dyspnœa. Usual weight—107 lbs., reduced to 93 lbs.; anæmic, strength fair, never had hæmoptysis, pulse 120, temperature 100° F. Signs,—left lung, in front: dullness from apex, descending as low as second interspace, with numerous mucus and subscerpitant râles extending from apex to base of lung. Posteriorly, similar râles and dullness extending three inches below spine of scapula. Right lung and heart normal. Numerous tubercle bacilli in sputum.

This patient was treated eight weeks and received 24 injections, when it was deemed best for her to go to Colorado. The treatment was continued there for a time, but she died at the end of eight months.

Case 2.—Not benefited. April 24, 1891. Mr. M. H. W., aged 29. No hereditary predisposition. Patient had been ill one year, the disease having begun with pneumonia. Symptoms,—cough and muco-purulent expectoration, amounting to about four ounces daily, weight reduced from 165 to 155 lbs., has had several hæoptyses; strength, appetite and digestion fair; pulse rapid, frequent fever. Signs,—left lung: feeble respiration over the entire lung with marked dullness, subcrepitant râles and exaggerated voice sounds. A large number of tubercle bacilli in sputum. Treated six weeks, received 17 injections. Patient disappeared.

Case 3.—Not benefited. November 30, 1890. Mr. S. J., aged 25, no hereditary predisposition, had pleurisy with effusion three years previously, and at the time I first saw him he had been sick four months. Symptoms,—pain in the chest, failing strength, dyspnœa on exertion, and cough and expectoration; weight reduced from 150 to 140 lbs., appetite fair, pulse 104, temperature 101.5° F. Signs,—left side, slight loss of motion and dullness and subcrepitant râles over greater part of anterior portion of lung; posteriorly similar signs, extending as low as the inferior angle of the scapula. Sputum not examined. About four months after the patient came under my observation, he was placed upon the iodine and gold and sodium bichloride treatment, which was continued for six weeks, but he received no decided benefit.

Case 4.—Not benefited. September 15, 1891. Mrs. H. H., aged 30, no hereditary predisposition, ill eighteen months. Symptoms,—pain in chest, loss of weight and strength, dyspnœa, cough and expectoration; hæmoptysis ten days previously. Pulse 144, temperature 101¾° F. Signs,—larynx and trachea congested; right apex dullness low as second rib; left apex dullness low as third interspace. Subcrepitant râles below left clavicle, numerous tubercle bacilli in sputum. Patient under treatment thirteen weeks; she received fifteen injections and apparently improved for a short time, but obtained no lasting benefit.

Case 5.—Not benefited, September 18, 1890. Mr. J. H. M., aged 29, no hereditary predisposition; had suffered an attack of pneumonia seven years previously, and had been a hard drinker for some years. Had been ill one year. Symptoms—pain in the chest, loss of weight and strength, cough and expectoration; pulse 130, temperature 100⅘° F. Signs—dullness, subcrepitant and mucous râles over the lower half of left lung. About three months later the patient was placed under the Shurly-Gibbes treatment, which was continued for five weeks; during this time he received twenty-three injections. Patient went to Texas, but finally returned and died a few months later.

Case 6.—Not benefited. March 12, 1891. Miss S. P., aged 27, no hereditary predisposition. Patient had suffered from bronchitis and influenza and began coughing two years previously. Symptoms—weak, lost 15 lbs in weight, strength fair, frequent cough with expectoration of a greenish sputum; two hæmoptyses, appetite poor, pulse 96, temperature 99⅕° F. Signs—left apex consolidation, which had progressed to the third stage; right apex consolidation beginning. She was under treatment six weeks; received eleven injections.

Case 7.—Not benefited. April 30, 1891. Mr. S. J. W., aged about 50, lost three sisters with consumption, had himself suffered from pneumonia four months previously, had been sick for four months. Symptoms—pain in right lung, loss of weight 19 lbs, great loss of strength, night sweats, cough and expectoration of viscid yellow sputum, about two ounces daily, no hæmoptysis, appetite was very poor, pulse 120, temperature 100° F. Signs—entire right lung involved, especially the upper two-thirds, left lung normal, numerous bacilli in sputum. Patient was under observation seven months and a half and received from ten to fifteen injections; he subsequently died.

Case 8.—Not benefited. January 3, 1891. Mrs. M. W., aged 28; ill eighteen months; one sister had died of phthisis; patient herself had pneumonia eighteen months previously. Symptoms—pain in left side, lost in weight 33 lbs., dyspnœa, cough, muco-purulent expectoration of about three ounces daily, no hæmoptysis, anorexia, pulse 112, and temperature 100° F. Signs marked. Sputum not ex-

amined. She was under treatment six weeks, and died about nine weeks after her first visit.

CASE 9.—Not benefited. January 7, 1891. Mr. B. P., aged 21; lost two brothers from phthisis; no previous pulmonary disease; ill four months. Symptoms,—loss of flesh, dyspnœa, cough and expectoration, poor appetite, one hæmoptysis. Pulse 100, temperature 98 ⅘ ° F. Signs,—left apex involved low as fifth rib; right lung: feeble respiration over lower lobe. Sputum not examined. Was under treatment eight weeks and received thirty-one injections; died a few weeks after the last visit.

CASE 10.—Not benefited. July 7, 1891. Miss Z. H., aged 27. Several uncles and aunts had died of phthisis. Patient suffered from pleurisy three years previously and from influenza about ten weeks before calling upon me. Symptoms—pain over left lung, weakness, loss of weight from 145 to 114 pounds, night sweats, cough and expectoration of from one to four drams daily; appetite fair, pulse 120, temperature 120⅘° F. Signs—dullness, feeble respiration and harsh respiratory sound over upper lobe of left lung low as fourth rib in front and to fifth rib behind. Cogwheel respiration all over left side and feeble respiratory murmur over the lower lobe. Many tubercle bacilli in sputum. She was under treatment six weeks and received 38 injections, but apparently not benefited. She then went to Colorado and was there under the same treatment for a time, but steadily failed and died after a few months.

CASE 11.—Not benefited. November 12, 1891. Mr. M. H., aged 40, no hereditary predisposition, or former illness. Symptoms — weakness, diminution of weight from 174 to 157 pounds, night sweats, dyspnœa, poor appetite, cough and expectoration of from two to four drams daily of muco-pus. Pulse 112, temperature 102° F. Signs—dullness over right apex low as fourth rib, with broncho-vesicular respiration low as the third interspace in front, and extending three inches below the spine of scapula behind. Tubercle bacilli in sputum. He was under treatment six weeks, but received no apparent benefit. He then went West where he probably died.

CASE 12.—Not benefited. November 5, 1891. Miss L. S., aged 24. She had suffered no previous illness, but one sister had died of phthisis. Symptoms—failing strength, loss of weight from 130 to 104 pounds, poor appetite, night sweats, irregular menstruation, cough and expectoration of from two to three ounces daily of muco-pus; pulse 120, temperature 101° F. Signs—congestion and thickening of vocal cords, slight dullness, and broncho-vesicular breathing low as rib on left side and low as the third interspace on the right. Tubercle bacilli in sputum. Was under treatment about six weeks, but received only a few injections; died about four weeks later.

CASE 13.—Not benefited. June 6, 1891. Mr. B. S., aged 21, no hereditary previous pulmonary disease. Had been sick three months. Symptoms—dizziness, weakness, loss of weight from 123 to 104 pounds, dyspnœa, cough and expectoration of muco-purulent matter about one ounce daily, poor appetite. Pulse 118, temperature varying from 98° to 102° F. Signs—distinct dullness over right apex low as third interspace with a few subcrepitant râles all over the upper lobe of that lung. Slight dullness over left apex and a few subcrepitant râles as low as the second rib. Sputum not examined. Was under treatment about five weeks, but grew gradually worse and died about six months after he first came under my notice.

CASE 14.—Not benefited. January 28, 1891. Mr. H. D., aged 24, no hereditary predisposition or previous disease. Had been sick about three months. Symptoms—pain in right side, cough, nervousness, anorexia, emaciation, night sweats and fever. Pulse 106, temperature 101⅘° F. Voice very hoarse, dyspnœa, cough and expectoration of about three ounces of mucus daily. There had been no hæmoptysis. Signs—congestion of the larynx and trachea, with dullness over right apex low as second rib, broncho-vesicular breathing, and subcrepitant râles low as second interspace. Sputum not examined. Patient was under treatment eight weeks and received thirty-one injections, but no apparent benefit. Left for the Old Country where he probably died.

CASE 15.—Slightly benefited. February 9, 1891. Mr. H. J., aged 20. Father and mother both died of consumption. Had been sick five weeks when first seen. Symptoms—pain in the shoulder and side,

headache, night sweats, weakness and loss of weight from 140 to 130 lbs., pulse 90, temperature 98⅘° at times, but frequently fever. Appetite poor, but digestion good. Signs—slight dullness and feeble respiration over left apex low as the second rib. Patient was under treatment seven weeks and received twelve injections, and at the end of which time he had gained seven or eight pounds in weight. He, however, began to fail rapidly shortly afterwards and no doubt died within a few months, though I have not a record of the termination of the case.

Case 16.—Improved for a time but finally failed. December 26, 1890. Mrs. D. A. E., aged 29. Had been sick about three years, her trouble having dated from an acute pleurisy. Her mother died of consumption. Symptoms—occasional pain in the left lung, very despondent, nervous, losing weight and strength. Pulse 128, temperature 100⅘° F. Hoarse, dyspnœa, severe cough and free muco-purulent expectoration. No hæmoptysis. Signs—showed a large cavity in the upper part of the left lung, with marked dullness low as the seventh rib and subcrepitant râles over the whole lower lobe. Broncho-vesicular respiration at the apex of the right lung as low as the second rib. She was under treatment about seven weeks and received thirty-five injections. She was apparently much benefited at first, but at length began to fail and then went West, where she continued to grow worse until she finally died about nine months after her first visit.

Case 17.—Improved for a time. December 29, 1890. Mr. E. P. F., aged 20. He had been sick two months; no hereditary predisposition, and no previous pulmonary disease. Symptoms—pain in chest, loss of weight from 134 to 124 lbs., loss of strength, night sweats, dyspnœa, poor appetite and digestion. No hæmoptysis; pulse 150, temperature 101½° F. Signs—dullness and broncho-vesicular respiration over right apex as low as third rib, over left apex as low as the fourth rib with numerous subcrepitant and larger râles. Sputum not examined. Patient was under treatment seven weeks, received twenty-nine injections, and was apparently considerably benefited at first, but died within a few months after last treatment.

Case 18.—Improved for a time. July 9, 1891. Mr. M. M. J., aged 16. Two brothers had died of consumption; he had suffered no previous pulmonary disease. Had been sick two months. Symptoms—pain in right side, with loss of weight from 124 to 120 lbs. Very anæmic, night sweats, cough and expectoration, with poor appetite and digestion. No hæmoptysis. Pulse 96, temperature 99½ to 103° F. Physical signs showed involvement of right apex low as third rib, with broncho-vesicular breathing, and dullness in left supra-clavicular region. Sputum not examined. Patient was under treatment five months and was apparently much benefited, but after a time he began to fail and with the coming on of bad weather, went to Arizona. On the way he took cold and continued to grow worse after he arrived at his destination. He remained there about two months, then returned and died about four weeks after reaching home.

Case 19.—Improved for a time. October 7, 1891. Mrs. K. J. F., aged 24, no hereditary predisposition; had pneumonia three years previously. Symptoms—failing strength, loss of weight from 150 to 135 lbs., night sweats, dyspnœa, marked anæmia, cough and expectoration of muco-pus. No hæmoptysis. Digestion and appetite poor. Physical examination showed slight involvement of both apices, numerous tubercle bacilli in sputum. Patient was under treatment seven weeks and was apparently considerably improved at first, but began to lose strength and then went West. She remained for three or four weeks in Nebraska, where she did poorly and subsequently went to New Mexico, but grew continually worse and finally returned at the end of three months, and died shortly afterward.

Case 20.—Improved for a time. May 27, 1891. Mrs. A. B. M., aged 27. One sister died of phthisis; patient had pleurisy one year previously. Had been sick eighteen months. Symptoms—loss in weight from 135 to 111 lbs., anæmia, dyspnœa on slight exertion, severe cough, and expectoration of about half a pint daily; pulse 114, temperature 101° F. Signs—right side in front, dullness low as the fifth interspace, behind extending one inch below spine of scapula. Respiration slightly harsh over this dull region and feeble all over the remainder of the lung. Left side in front, slight dullness as low as sixth rib and behind extending

down to the spine of scapula; feeble respiration all over the left lung with a few subcrepitant râles. Sputum not examined. Patient under treatment 22 weeks, and received 55 injections. She seemed very much benefited for most of this time, but as the winter came on it was thought best for her to go to a different climate. She went to Arizona, but caught cold upon the way and did not regain her health, though she improved after a few weeks, but ere long she took the influenza, subsequently grew rapidly worse, and died after a few weeks.

CASE 21.—Improvement for a time. February 6, 1891. Mr. R. S., aged 23, had been sick for seven months; no hereditary predisposition, and no previous pulmonary disease. Symptoms—pain in the throat, cough and expectoration of purulent sputum, poor appetite and loss of weight and strength. Signs—larynx congested and thickened, but no ulceration. Dullness and broncho-vesicular breathing low as the third interspace on the right side and similar sounds over the very apex of left lung. Numerous tubercle bacilli in sputum. Pulse 132, temperature 99½° F. Patient was under treatment 11 weeks, receiving 33 injections, and was very greatly benefited. When last seen he was in better health than in the beginning, but I do not know the subsequent history of the case.

CASE 22.—Improved for a time. January 8, 1891. Miss P. B., aged 21. Had been sick three months. Her mother and one sister had died of consumption; no previous pulmonary disease. Symptoms, —pain under the sternum, loss of weight from 128 to 124 lbs. Strength fairly good, pulse 132, temperature 102° F., night sweats, dyspnœa on exertion, severe cough in the morning with expectoration of light greenish sputum in small quantities; no hæmoptysis. Appetite good and digestion fair. Signs—dullness over right apex marked as low as third rib, and broncho-vesicular respiration in the same region. A few subcrepitant râles over the lower lobe of right lung, and feeble respiration over whole of this lobe. No distinct signs on left side. Sputum not examined. She was under treatment five months and received 65 injections. Two months after treatment began it was noted that she was gaining strength, her pulse was diminishing in frequency and her temperature was lower. Two months later there was less cough, but the temperature had slightly increased. About this time diarrhœa began and continued in spite of any form of treatment. She gradually failed and died after a few months.

CASE 23.—Much improved for a time. March 11, 1891. Mr. C. H., aged 31. No hereditary predisposition and no previous pulmonary disease. Had been sick six weeks. Symptoms—loss of weight and strength with cough and expectoration of muco-pus. Pulse 114, temperature 98⅘° when first examined. Physical examination revealed distinct signs of consolidation low as second rib on right side, with feeble respiration low as fourth rib and slightly enfeebled respiratory murmur over the whole right lung. Tubercle bacilli in sputum. Patient was under treatment five months, received 33 injections, and apparently was very greatly improved. The patient, however, knew that he had consumption and had frequently stated that he would never die of that disease, intimating that he would take his own life. He called a physician suddenly one evening under peculiar circumstances seeming to indicate that he had taken aconite or some other violent poison from which he died in about five minutes.

CASE 24.—Improvement for a time. January 31, 1891. Mr. K. C., aged 24. No hereditary predisposition, and no previous pulmonary disease. He had been coughing for about four years. Symptoms—dyspnœa, weakness, chills and fever of three weeks duration. Pulse 130, temperature 101° F. Physical examination showed marked involvement of right apex as low as seventh rib and with numerous tubercle bacilli in sputum. Patient was under treatment 15 weeks, received forty-four injections, and was apparently greatly improved for some time, being able to go on with his work, notwithstanding the severe epidemic of influenza, which caused four-fifths of the numerous other clerks in the office to lay up for some time. Eventually the patient began to fail and concluded to go West. A subsequent history of the case I have not obtained, but have no doubt it proved fatal.

CASE 25.—Much improved for a time. October 11, 1891. Miss S. K. M., aged 24. Her mother died of phthisis; the patient had suffered no previous pulmon-

ary disease, but had been coughing for six months. Symptoms—pain in the chest, weakness, anorexia, loss of weight from 133 to 95 lbs., night sweats, considerable cough, but no expectoration. She was markedly anæmic, pulse and temperature were noted as normal. Physical examination revealed much depression of the upper part of the sternum and infra-clavicular regions, but this had existed since childhood. Dullness over right apex as low as the second rib in front and behind, extending to the spine of scapula. Broncho-vesicular respiration and subcrepitant râles with feeble respiratory murmur in the same region. Numerous tubercle bacilli in sputum. She was under treatment for six weeks, received the injections regularly, and greatly improved in her general condition. With the coming on of the worst portion of the winter she went to the City of Mexico, when shortly after her arrival she took a severe cold and from reports seems to have had pneumonia, at any rate she did poorly for a number of weeks, but finally began to improve. At present she is said to be gaining.

Case 26.—Mr. L. E. J., came under my care January 27, 1891. Much improved for a time. There was no hereditary predisposition. He had suffered previously with bronchitis, and had been sick for about two years. Symptoms—pain in chest, weight diminished from 154 to 149 lbs, cough and slight expectoration; never had hæmoptysis. Physical examination showed a small tubercular ulcer in the larynx and consolidation of the right apex, low as third rib. There were numerous tubercle bacilli in sputum. He was under treatment five weeks and received 45 injections, during which time he steadily improved, continuing at his work. When last seen, nine months later, he was much better than when he first consulted me.

Case 27.—Much improved for a time. August 1891., Mr. M. S. J., aged 20. A brother had consumption; the patient had suffered from bronchitis; had been sick four months. Symptoms—anorexia, emaciation, loss of strength, night sweats, cough and expectoration; Never had hæmoptysis; pulse 102, temperature 101½° F. Signs—left apex, slight dullness above clavicle with sticky subcrepitant râles and increased whisper resonance. Tubercle bacilli in the sputa. He was under my care seven months, receiving the injections quite regularly for four or five weeks, subsequently about two or three times per month; during this time he was very much improved and when seen about two months ago was much better than any time before since he first came under my observation.

Case 28.—Much improvement. July 10, 1889, Mr. K. L. J., aged 26, came under my care. His father had died of some pulmonary disease, and the patient had been troubled with his present illness for two years. He was nervous, had lost some in weight and strength, was short of breath on exertion, and sometimes had severe cough, expectoration of about an ounce of yellowish matter daily. Never had hæmoptysis. Signs—dullness over left apex low as fourth rib in front, and behind over whole of left lung. Respiratory sounds feeble with râles, most distinct over the lower lobe of the lung, and broncho-vesicular respiration at the apex. Right lung normal. About the 1st of January, 1891, he was placed under the Shurly-Gibbes treatment, which he received regularly for two or three months and since that time he has received the injections about two or three times per month, all told amounting to 106 times. A large number of tubercle bacilli in sputa. The patient has held his own during all this time, though he has not really gained, yet considering the nature of the disease it must be considered an improvement. He is still doing well.

Case 29.—Much improved, December 12, 1891. Miss D. N., aged 28, no hereditary predisposition or former disease of the lungs. She had been sick for one year. Symptoms—loss of weight from 110 to 95 pounds, very weak, hoarse, dyspnœa, cough, appetite poor and fingers clubbed. The pulse was rapid and she had a temperature from 102° to 103 ° F., had had two hæmoptyses. Signs—slight depression over the right apex, with deficient movement and some dullness low as the third interspace. In the same region broncho-vesicular respiration as low as the second rib in front and extending one half inch below the spine of scapula behind. On the left side respiratory murmur slightly harsh above the clavical, no râles. Patient was under treatment six months and received forty-three injections, and was much improved. Fever disap-

pearing entirely and the cough almost ceasing. She is still doing well.

CASE 30.—December 16, 1891, Miss O. R., aged 17, no hereditary predisposition and no former disease. Symptoms—poor appetite, loss of weight and strength, hoarseness, cough and a little expectoration. Never had hæmoptysis. Pulse 120, temperature 99°. Signs—arytenoid cartilages much swollen, dullness over right apex as low as the second rib, very distinct above the clavical. Exaggerated vocal resonance in the same region, with broncho-vesicular respiration above the clavical; no râles. No tubercle bacilli were found in the sputum. She was under treatment for three months and apparently had nearly regained her health though she still remained hoarse. During the latter portion of treatment she was under the care of her family physician. At the end of three months I advised that the injections be discontinued, but she speedily began to lose weight and strength, and they were then renewed with favorable results. At last report she was still doing well.

CASE 31.—March 17, 1891. Much improved, Mrs. M. R., aged 21, no hereditary predisposition, had an attack of pleurisy about three months previously. Symptoms,—soreness in chest, loss of weight and strength, hoarseness, and great dyspnœa on exertion; cough and expectoration of about four drams of yellowish sputa daily. Had hæmorrhage two years previously and slight hæmoptysis several times since. Appetite good, pulse 108, temperature normal. Physical signs—right arytenoid much swollen with a papillary growth on its anterior surface; dullness and harsh respiration over the left apex, and numerous tubercle bacilli in the sputa. She was under treatment two months but received the injections regularly for only a short time. She improved much and at last accounts was doing well.

CASE 32.—Much improved. November 7, 1891. Mr. F. E., aged 29, no hereditary predisposition to phthisis. Symptoms—emaciation, hoarseness for the last two years, occasionally slight expectoration of blood. Pulse 88 but said usually to be slower. Temperature ranged from 98 6-10 to 99 4-10° F. Dullness over right apex. low as second rib, broncho-vesicular breathing, as low as third interspace and a few sticky subcrepitant râles, with many tubercle bacilli in sputa. He was under treatment about three months, receiving however, only a few injections. He gained several pounds in weight, and at the end of this time the temperature and pulse, were normal, there was little or no dyspnœa and but little cough.

CASE 33.—Much improved. April, 1888. Mrs. W. N. N., aged 26, no hereditary predisposition and no previous pulmonary disease. She had been coughing for about two months when first seen. Symptoms—pain in the upper part of the left chest, with slight loss of weight, and occasional cough and expectoration of from two to five drachms of muco-purulent matter; had slight hæmoptysis six months previously. Appetite and digestion fair. Physical examination showed slight thickening of the arytenoid cartilage with deficient movement of the apex of the left lung and dullness as low as the third interspace. Broncho-vesicular respiration and exaggerated vocal resonance with a few râles over the same area and extending a trifle lower. There were also a few subcrepitant râles over the apex of the right lung. This patient improved under treatment and finally appeared practically well, but at length during the course of gestation the disease was lighted up anew, and after confinement she ran down rapidly, cavities formed in the lungs, and at the earnest solicitation of her friends, though without the advice of her medical counsellors, she went to California. After a time she improved, but during her residence there she had an attack of what appears to have been tubercular meningitis lasting for several weeks. She subsequently grew better and spent the early part of the winter of 1890 and 1891 in Texas, but about the middle of January went to New Mexico and near the first of February, 1891, began the Shurly-Gibbes treatment. She began to improve coincidentally with the treatment and steadily gained, making remarkable progress the next two months. She then went to Colorado and continued the Shurly-Gibbes treatment, the injections being given less frequently for many months. She is still doing well. This was a desperate case when she went to California and her improvement since has been phenomenal. When the Shurly-Gibbes treatment was commenced she was using about twenty handkerchiefs per day to receive the

abundant muco-purulent expectoration, but at the end of two months a single handkerchief would suffice. Microscopic examination showed a large number of tubercle bacilli in the sputum. Although the benefit in this case must be attributed largely to the climate, yet the rapid improvement was coincident with the use of the Shurly-Gibbes treatment, and it has always appeared to me, as it has to her friends, that it had very much to do with the arrest of the disease. This is the only advanced case of tuberculosis in which I have seen any decided benefit which could be attributed to this form of treatment.

Case 34.—Much improved. September 1891. Mr. S. G., aged 31, no hereditary predisposition to tuberculosis and no previous pulmonary disease. Patient had been ill for several months when I first saw him and had just suffered a hæmoptysis. This patient was under my care for three years before the Shurly-Gibbes treatment was commenced. In February 1890, there was distinct consolidation of the apex of the right lung as low as the third rib. In June of the same year he was slightly improved but in September was again worse. He returned to Chicago after a prolonged absence during the fall of 1891 and desiring to remain in the city, I decided to place him under the Shurly-Gibbes treatment. Numerous bacilli were at this time found in the sputum. His general health was fairly good and his weight as great as at any time since I had known him. Treatment was begun on September 10, 1891 and continued, the injections being given about twice a week for several months. The patient apparently improved under the treatment and was able to attend to his work all winter long. During the latter part of the winter he was so well that the treatment was discontinued, but he soon began to fail and the treatment was renewed with decided benefit. He continued to do well until about six weeks ago when he began once more to fail, and I now find that the disease had again been lighted up in the lung so that I have directed him to seek a different climate.

Case 35.—Disease arrested January 13, 1891. Mr. M. T. J., aged 24. He had lost one or two aunts with tuberculosis, and had himself suffered from catarrhal pneumonia the winter previously and had been sick for two months when I first saw him. Cough and expectoration of a considerable quantity of muco-pus, pulse 124 and temp., 100 3–8° F. No hæmoptysis, had a fairly good appetite. No examination of the sputa. Signs—right apex dullness and harsh respiration low as second rib in front; similar signs behind extending to within one inch of the spine of scapula, no râles. Feeble respiration over the lower lobe of right lung, having only about 60 per cent. of the intensity of the left side. This patient was under treatment 11 weeks and received 24 injections. At the end of the time he appeared perfectly well and has so continued with the exception of one or two slight colds.

Case 36.—Disease arrested February 17, 1891. Mr. B. W. J., aged 29. The patient had at this time been coughing for four weeks and had recently raised blood; there was no hereditary history of tuberculosis and he had never suffered from any previous pulmonary disease excepting bronchitis. The weight was nearly normal, strength fair, pulse 96 and temp. 99° F. The sputum which amounted to about two ounces daily, consisted of muco-pus, and contained tubercle bacilli. Signs—loss of motion and dullness over left apex low as second rib, with indistinct subcrepitant râles. He was placed under treatment several weeks during which he received 36 injections; at the end of this time he appeared perfectly well and has continued in this condition ever since, with the exception of two or three slight colds, which have caused him to cough more for a few days at a time. Tubercle bacilli continue in the sputa, though his general appearance is that of a person in perfect health.

Case 37.—Arrested May 9, 1891. Mr. S. G., aged 22, no hereditary history of tuberculosis and no previous pulmonary disease. He had been ailing for a year and a half. His flesh and strength remained good, appetite fair, there were no night sweats, but he coughed and expectorated about an ounce of muco-pus daily. Pulse 114 temp. 100 ⅘ ° F. No distinct dullness could be discovered, but there were occasional râles all over the upper lobe of the left lung. He was under treatment nine months during which time he received 65 injections. He gained much in weight and strength and at the end of this time appeared perfectly well and he still remains in this condition, though at the last ex-

amination bacilli were still found in the sputum.

CASE 38.—Arrested November 12, 1890. Miss S. R., aged 24. Her father died of consumption. She had been sick about three months. Symptoms—pain in the chest, emaciation from 145 to 122 pounds, weak, a hacking cough and muco-purulent expectoration; pulse 102, temperature 99½° to 103° F. Signs—marked dullness and broncho-vesicular respiration above the right clavical. No microscopic sputa. She was under my care for eight months, during which time she received only 11 injections, these being made at first about once a week. She received other treatment at the same time as did all other patients, so that the effects of the Shurly treatment cannot be definitely estimated. At the end of the treatment she appeared perfectly well and she continues so at the present time, having gained in flesh and lost high temperature and cough. Although the history of this case is not complete, yet those who saw her during the course of the treatment have no doubt of the nature of the disease.

CASE 39—Disease arrested July 17, 1891. Mr. K. P. C., aged 27. There was no hereditary history of consumption. Symptoms—pain in the chest, cough and slight muco-purulent expectoration with dyspnœa upon exertion. Appetite fair, and strength good, pulse and temperature not noted; had suffered six hœmoptyses. Signs—dullness over right apex low as second rib in front and behind extending two inches below the spine of scapula, marked broncho-vesicular respiration in the same region and subcrepitant râles. She was under my care for seven months during which she received 58 injections and at the end of that time she appeared perfectly well and so continues at present.

CASE 40.—Disease arrested August 26, 1891. Mr. T. G., aged 34. No hereditary history of tuberculosis. He had diminished in weight from 133 to 128 pounds, but had a fair appetite and digestion, was troubled considerably with cough but had only slight expectoration. Had raised four ounces of blood about one month previous. Pulse 78, temperature 99 2-5° F. Signs—harsh respiration over apex of left lung low as second rib, but no râles and no distinct dullness. A large number of tubercle bacilli in sputa. He was under my care for six weeks, during which time he received 18 or 20 injections. He then went to Colorado and the treatment was continued by Dr. Hart of Colorado Springs. He slowly improved and finally returned to Chicago in apparent perfect health and so continues at the present time. In this case climate might be given some of the credit, but the patient himself attributes the beginning of his betterment to the treatment. The bacilli have disappeared from the sputa.

CASE 41. Disease arrested December 23, 1890. Mr. N. F. C. aged 27. Hereditary history showed numerous deaths in the family of tuberculosis. He had suffered from pneumonia twelve years previously, and had been ailing four months when he first called upon me. Symptoms—pain in right side with cough and free expectoration, strength and appetite fair. Pulse 102° F. There had been no hæmoptysis. Signs—dullness over the inner one half of the right infra-clavicular region with prolonged respiratory murmur and exaggerated vocal resonance but no râles. Similar signs were obtained in the supra-scapular region of the same side. Numerous tubercle bacilli in the sputa. He was under my care for nine months, during the early part of which he received twenty-two injections, which seemed to give him decided benefit. Sometimes he experienced a tonic effect from the injection for thirty-six hours after it had been given. At the end of the time he appeared perfectly well and has so continued ever since, with the exception of two or three slight colds lasting for four or five days each. He still continues in good health. Disease arrested.

CASE. 42.—Disease arrested January 14, 1891. Miss H. M., aged 27. No hereditary predisposition or previous pulmonary disease, but had been coughing for three months. Symptoms—pain in chest, weakness, fever, cough and expectoration of muco-purulent matter. There had been no hæmoptysis. Pulse 78, temperature 99¾° F., but subsequently frequently as high as 101° or 102° F. All the symptoms indicated rapidly progressing tuberculosis. Signs—Dullness over right apex as low as third rib with harsh respiratory murmur. She was under my care thirteen weeks during which she received thirty injections. At the end of the treatment she appeared well and she continues so at the present time. In this case the sputum was not examined, but the symptoms and physical

signs as witnessed by my assistants and myself leave no doubt as to the diagnosis. Several others of those for whom I have recommended this treatment who have been taken care of by other physicians have apparently been much benefited by it. Three of these were treated by Dr. Walters of Woodstock, Illinois, who reports very great improvement or arrest of the disease I have not included them in this report. When I first began the use of the Shurly-Gibbes treatment, I gave it to all phthisical patients who came to me, but in many instances only one or two injections were given, and often the patient was not seen after the first or second visit, as many of them came to me from a distance and soon returned to their homes.

An analysis of these 42 cases, will show that 14,or one-third, received no apparent benefit, but it will also show that twelve of these were far advanced when they first came under my care. Fourteen others were apparently decidedly improved for some time but ultimately they grew worse, and six of them have since died. Of the 14 cases that were not improved, I believe that all are dead. Six of the 42 cases are noted as much improved, all of them have been under observation for many months, and I believe that they are, with one exception all doing well at present. Four of these when first seen were in the early stages of the diseases having been ill but a few months and some of them will probably recover. Of the 42 cases eight are noted as arrested. All of them are at present in good health, though in those where the sputum has been examined recently, of which there are four, the bacilli continue and in all these four, and possibly in others there is still expectoration of a small amount of muco-purulent sputa every day, amounting possibly to half a dram.

It will be seen that whatever the results of the treatment, it does not destroy the tubercle bacilli, a fact which was established early by Dr. Shurly himself. During the last few months I have discontinued the use of chlorine as an inhalation substituting for it in most instances inhalations of iodine, which has seemed to me more beneficial.

It will be seen by the analysis that a little more than 19 per cent. of the disease has been arrested. In about 14 per cent. the patients have been greatly improved, and in 33 per cent. they were apparently benefited for some time, though they ultimately failed. It will be noticed also that nearly all of the patients who were not benefited, were already far advanced in the disease, when first given the treatment; and that the majority of those who have been treated in the inception of the disease have been greatly improved or have recovered. But it will also be observed that the treatment is not entirely valueless in some advanced cases. Considering these facts, I think that I am justified in believing that we have in the Shurly-Gibbes treatment for tuberculosis, a method of great value in incipient cases, which adds much to their chances of recovery. I do not think we should rely upon it alone in any case, but for myself I would feel that I had not done my patient justice if I had not given him the benefit of its trial, providing the disease of the lung had not extended below the third rib, when he first came under my observation. While the treatment may occasionally prove beneficial in advanced cases, I would not recommend it to such patients excepting where they desired to try it after the chances have been fully explained. In only one of the cases reported was a history of previous syphilis obtained, and this case was so clearly tubercular, that I did not hesitate to place it in this list; but it is at once apparent that where doubt as to the tubercular or specific origin of pulmonary disease existed, this would be an appropriate treatment for trial.

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SYRINGES FOR SUBCUTANEOUS INJECTION.

The *Journal de Médecine et de Chirurgie pratique*, 1892, 2e. cahier, p. 49, gives full and accurate information concerning the syringes of Malessez, Félizet, Gimbert, Burlureau and Guerder, and Peter. The last three forms possess especial interest, in that the treatment of tuberculosis by injection of medicated oils (creasote 1 to 14, iodol iodoform 1 to 29, crystallized phenic acid 1 to 49, or guaicol) is now recommended. The technique is fully given, the accidents carefully stated, precise antiseptic precautions noted, and, taken as a whole, this paper is a complete guide to the practice of voluminous subcutaneous injections.

SEPSIS, WITH A NARRATION OF A FEW INTERESTING AND INSTRUCTIVE CASES.*

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1. In these blessed days of antisepsis, thanks to Pasteur, Lister and Koch, we are at least permitted to come to our patients with *clean hands and a clear conscience.* These sanitary precepts are founded upon the dire lessons of sepsis. This dread process is the dispenser of the admonition—"Let another man's shipwreck be your seamark." And yet, how little is its intimate nature understood. It would seem that this were still largely an unexplored field in which much work need be done.

2. Our theme therefore is not so easy to define. A septic process is so complicated that a number of complex factors must necessarily enter to produce it. That stage in our knowledge is not yet at hand, that we can fully appreciate all these factors so curiously inter-woven in their relations to each other, as they are concerned in sepsis. However, it may be briefly defined as infection and intoxication, which arise when specific, pathogenic germs gain access to the body, and finding conditions favorable, they grow and multiply therein, and in so doing elaborate a chemical poison which induces characteristic effects. These effects are sometimes only local, or both local and systemic; this will often only depend upon the kind of germ, or, both upon the kind of germ and the kind of host.

3. It is in physical life, just as it is in social life, the lower grade is striving to oppose the higher. *Instability* of organized structure and function during life, as well as of organic material after death, make bacterial life possible. Under these circumstances organized form falls prey to bacterial life's action, by which means it is returned to its primary or inorganic state, from whence it was taken. In this process *the transition products necessary to septic intoxication are given.*

4. In a scientific way this fact was first proven by Panum it 1856. He showed that poisons comparable to venom of serpents, curare and nicotine and not to be destroyed by either boiling or evaporation, are formed during decomposition of animal matter. Since his time Brieger deserves credit for isolating a number of these putrefaction ptomaines; and, what is still more important, he was the first one to demonstrate the fact that certain poisons are also formed within the living body, by certain germs causing infectious diseases. Hence it is evident that every germ which causes disease in man does so by virtue of its chemical products. These poisons may result first from the secretion by some of the bacterial cells themselves; secondly, from the splitting up of complex compounds of organic source by the activity of bacterial life.

5. Ever mindful in her conservatism, nature provides a restorative process, to regenerate tissues impaired by traumatism and disease. It resembles in every respect the physiological process of growth of tissues, just as is observed during development of the body; and, like in other development processes, more or less heat is evolved. Embryonal cells promptly undergo transformation into tissues which correspond to the anatomical seat of lesion. Unmolested, this process *never* proves destructive, but *always constructive*; and, it ever promptly attains its end. However, molested by bacterial life, a process *never* constructive, but *always destructive*, is inaugurated; and *abnormal* heat is generally evolved. Embryonal cells are *not* promptly, and more often *not at all*, transformed into tissues corresponding to the seat of lesion; but, are broken down and appropriated to the formation of poisons which are utilized in intoxication. This complicated process *never* promptly attains a salutary end, but only too often destroys the host.

6. Narrative No. I. somewhat uniquely illustrates virulence, an old and only too oft-told story:—Mrs. ———is on a journey of several hundred miles; while on the train she is seized with pain and flooding, and, as she puts it, "something drops while in the water closet." After reaching her destination flooding still continues for about one week. Loath to seek advice, failing strength and offensive discharges finally constrain her to do so. On examination the doctor find *os uteri* tightly puckered up; forcibly dilating it, he removes a small amount of débris.

*Read before the Ohio State Medical Society, at Cincinati, O., May 6, 1892.

Three days thereafter patient takes a violent chill followed by progressive inflammation of the surrounding tissues and involving the pelvic peritoneum. For three days the patient it entirely unconscious, pulse and temperature fluctuate, at times the former ranging over 160 beats per minute and the latter, over 105° F. Writer is called per telegram; on my arrival patient has regained consciousness and is somewhat better. I tell the doctor and his associate, who together are now attending, that the trouble is evidently septic, but this they are not inclined to believe. But, very soon there are thirty-five inoculated *puerpera* in the community; out of which number, Mrs. ———, is the only one who survives. Even one of the physicians becomes inoculated from some one of his patients and he has a very serious time to recover. Mrs. ——— after four years, suffers since from chronic pelvic abscesses.

7. It is of course assumed that infection is always from without. Germs may be conveyed into the body in many different ways. Into mucous channels, for example, they may find their way by inhalation or by being swallowed with the food. True, the hydrochloric acid contained in the gastric juice serves often to protect the digestive tract from infection; but under certain circumstances these invaders acquire an unusual amount of resistance, that they can withstand the action of the stomach's acid secretion, as well as can the spores. After alighting on a mucous or cutaneous surface, the infecting germ furthers its journey into the tissues through a solution of continuity of structure, be it ever so insignificant. It is a noted fact, that infection is even more *often* apt to occur through a merely slightly broken surface that does not bleed, than through a bleeding one; because, in the one case the infecting agent is readily taken up by the absorbents, while in the other, it may be washed away. Germs always follow the avenues of *least resistance*: Some forms find in the blood, others in the lymph spaces and vessels, the conditions most favorable for their proliferation. And even after they do gain access to the body, the same kinds of infecting agents do not always produce like effects on different hosts. Sometimes, in one instance it may prove only a local process, while in another, it may prove both local and systemic. It is believed that this will generally largely depend upon the number in which the invaders are present—i. e., the size of the dose—upon the varying virulence which the same species under different circumstances possesses, as well as the varying capacity of the host's resistance to ingress of the germs.

8. Narrative No. II. Albert K., aged five years, gets his right hand into a pulley, tearing away distal phalanges of the little and third fingers, and more or less crushing the whole hand. His wounds are treated with iodoform dressings, yet parts suppurate freely; however, the body suffers no systemic effects. On a very busy day the father brings his boy to my office, to obtain new dressing; to gain time, I request the father to proceed first in removing the old one. In doing so the father runs the tip of his right thumb over the point of dressing pin and barely nicks it. Three days after, he had a decided chill followed by high fever and he is a very sick man. The thumb is very painful and swollen, and progressive, destructive inflammation sets in, that involves the entire hand and forearm. Three incisions are made to draw off the pus; one into the thumb, one each into the hand and forearm respectively. Despite our treatment, the entire belly of flexors of the thumb sloughs away, and the father but very slowly recovers, while the son's wounds promptly heal and he is at the same time enjoying the best of health. This narrative first shows the difference of havoc produced upon the son and father respectively, by the same kind of pyogenic micro-organisms; further, it shows in the father's case the aptitude of infection through an insignificant portal.

9. Both character and degree of infection and intoxication will first depend upon the kind and competency of the infecting agent on the one hand, and secondly, upon the kind and susceptibility of the host on the other hand. These are problems towards which the complex factors of the microbe's individual equation, as well as the complex factor of the host's individual equation, must respectively contribute to solve. Diverse tissue metabolism resulting from the whims of fluctuating nutrition and waste, both during health and disease, must no doubt variously affect the parasite's environment

and, therefore, also its capability, as well as the host's responses to the bacterial reaction. With such variable conditions, chemism and concomitant symptoms must therefore *often* and *widely* differ.

10. Narrative No. III. Mr. E. C. M., aged sixty years, is afflicted with erysipelas involving the face, ears and parts of the neck and scalp; which is accompanied by uncontrollable nausea and vomiting. From Sunday to Thursday the temperature ranges between 100.5° F., and 103.5° F,, pulse between 86 and 96 beats per minute. On Thursday the temperature drops to 86° F. and the pulse to 66 beats per minute, *and at the same time nausea and vomiting cease*, but the local conditions remain about the same. This shows that chemism radically changed on Thursday, and with it did also all of the systemic manifestations, while local appearances are seemingly not much changed.

11. Narrative No. IV. Mrs. S. F., about thirty-five years of age, gets pregnant in August, and her pregnancy is accompanied by uncontrollable vomiting, that she rapidily emaciates and fails in health. It so continues until one week before Christmas, when she aborts. The family physician is called. Patient appears to him rather large for the length of time of pregnancy. An abdominal effusion is noticed by him. The puerperal state in *itself* passes by uneventfully; only vomiting will *not* cease. Writer is called in consultation, and the patient is found *extremely* emaciated and enfeebled, with a very rapid pulse of 144 beats per minute, and a *remarkably vacillating* febrile movement, fluctuating within two hours first from 100.5° F. to 97.5° F. and then to 101° F. The tongue shows two large necrotic patches. The stomach is very irritable, rejecting everything and is distended with gas. The spleen is considerably enlarged, and as already stated there is some abdominal effusion. Close inquiry elicits the fact, that patient had fever for some time before the miscarriage. Vomiting not ceasing, we know that *now* its cause is pregnancy, and from the other data at hand, it appears that our patient suffers from sepsis. The infection must be traced to the *primae viae* and no doubt prior to puerperium. This would illustrate pre-disposing influence of malnutrition and temperature vacillation, characteristic of some forms of sepsis.

12. The entrance of the different bacteria into the body, their residence there, and their means of support result in different processes. Some of these processes are always local, and never more, as in gonorrhœa (?), infectious ophthalmia, etc. There are some in which local evidence is almost *nil*, while the systemic manifestations are alarming, as in tetanus, la grippe, etc. These, no doubt, are constant biological stipulations. While again, we have to deal with some bacterial processes which are not constant in their behavior; at one time they are only local, while in another, both local and systemic, as in pyogenesis, etc. These as we have seen, are mainly governed by the host's own resisting powers. Then we have many mixed processes known in bacteriology as symbiosis; as may be found with diphtheria, typhoid fever, tuberculosis, etc.

13. Progress of infection and intoxication is encouraged by negative response of the host's immunity-giving agencies. When bacteria are brought into contact with living tissues, certain wandering cells come to its rescue, devouring and peptonizing these offenders. This is the doctrine of phagocytosis, first demonstrated by Metschnikoff. Phagocytosis depends upon the character of "chemiotaxis." By this is meant the attraction ("positive chemiotaxis,") or repulsion ("negative chemiotaxis") of phagocytes. Prudden and Hodenpyl believe that the phenomenon of "chemiotaxis" is due to chemical action of bacterio-protein. The infecting agents must also meet the germicidal proteids of the blood; these may prove negative and hence conducive to the inroads of infection. Finally, when bacterial products are not rendered inert by metabolism going on within and their elimination is ineffectual, then results *progressive intoxication.*

14. The local changes resulting from bacterial action are due to the toxic "irritation which the sympathetic nerves receive and this leads to afflux of blood to the irritated part owing to the dilatation of innervated capillaries. The congestion, the stasis, the altered local diffusion and nutrient phenomena, are the natural consequences of the local irritation." Further, morphological changes will depend upon the different nature of the poisons. For instance, many bacteria form peptic

ferments which break down and dissolve the infested tissues; in other words, the tissues are converted into a condition of disintegration or necrosis of one sort or another. Then again, in some way not yet known to us, very peculiar and characteristic inflammatory changes may be brought about which result in the formation of new tissues of various kinds. As examples, we may cite tuberculosis, syphilis, etc.

15. We have seen that when pathogenic germs find a *locus minoris resistentiæ*, how they may enter the living organism and there can produce their various toxic effects. True, the chemical products have not yet all been severally isolated that must be formed in the different processes. Yet, enough work has been done in this direction, to prove that this is the right path of research to follow in pursuit of the essence of truth. But the living body is such a complicated structure of unstable component parts and functions that it is an easy matter to understand how manifold is its versatility of metabolic processes in health, how much more so in disease, *and especially so in septic diseases.* Therefore, never forget, that we have to deal with *individual*, as well as with the *materies morbi* in our diagnosis making. The symptoms of the different septic processes may manifest themselves is such a variety of perplexing ways, that it peremptorily behooves us to be on our guard. It would be a blessing if there were some unswerving pathognomonic guide to direct attention. The nearest that one may come to this is, adopt the eccentric, but never unsafe philosophy of the pangermist, to always look for sepsis. So varyingly do these different septic processes manifest themselves, therefore, always think of them. It is easy to diagnose an advanced tuberculosis, a septicæmia in the puerperal state, or a pyæmia when the local evidences are apparent; but not so, when such landmarks are not plainly manifest.

16. The bacterial poisons all more or less affect the central nervous system. This fact is variously expressed in the different septic processes. For instance, some may be especially depressing in their action upon the heart, even morphine- and veratrine-like; or they may induce atropine- and digitaline-like, and other peculiar effects resembling those of other vegetable alkaloids. Others, no doubt, have a perverting influence upon trophic nerve functions. While all of them at different times, manifest a predominant or selective action upon certain individual nerve-tracts. This may prove a source of perplexing annoyances, well calculated to over-shadow other symptoms and to mislead in diagnosis. To illustrate, let me refer to a case of pyæmia reported by me in the *Columbus Medical Journal* of March 1892, in which is shown the selective action upon the phrenic nerve. It is the case of my own brother, who for five days and five nights almost incessantly hiccoughed, sometimes from 900 to 1500 times per hour, both while awake and asleep. There was a suppuration of the left ankle, from which a metastatic pus-localization formed in the interosseous space of the left forearm, just below the elbow. The patient recovered, but very slowly and conditionally.

17. Symptoms of elimination and different types of fever often render signal service in diagnosing the different septic processes. Yet, even these may prove inconstant: e. g., who has not seen constipation in typhoid fever? or the type of this fever widely deviate from its form of continuousness, or even seen it drop by times below the normal? A combination or succession of hyperthermic and hypothermic phenomena may become manifest according to the combination or alteration of poisoning by the deleterious physiological products, or their antagonistic action. Inconstancy and fluctuation are therefore often characteristics of septic processes; especially is this true of pyæmia.

18. No doubt, explanation must be largely sought in difference of chemism. But this is yet a very hazy theme; notwithstanding the remarkably broad statement made by Dr. A. Brown, and quoted by Aitkin:—

"(1) Poisoning by the 'Extractives' is attended by hyperthermia."

"(2) Poisoning by the 'Animal Alkaloids' is accompanied by hypothermia, etc."

To this, in a letter to me, Prof. Vaughan says: "The statement is very unfortunate and is not true. The term "Extractives" is too indefinite to discuss. That "Animal Alkaloids" are characterized by the production of hypothermia is not true, is shown by a number of facts entertained in our work on Ptomaines, etc." (As

illustrations see the work of Vaughan and Novy, pages 121, 123, and 140, 141 2d Edition). However, this has no practical bearing with us. After all, we must have recourse to discrete symptomatology; it alone can guide us in each particular sep tic process. Hence, we must always carefully, but promptly consider every single diagnostic detail, since so much depends upon a *proper* and *early* diagnosis. The advancement of bacteriology and physiological chemistry, which go hand in hand, will finally triumph and do a vast deal to elucidate and eventually lead us to a correct and satisfactory conception of sepsis.

19. The treatment of septic processes may be told in one word; it is antisepsis. This means that we shall strive to over-power these pathogenic invaders. This is not so easy in practice as it would seem in theory. After pathogenic microbes have gained entrance into the body, it is more difficult to destroy them than when only in the wound. We are generally able to prevent wound diseases by an antiseptic and aseptic operation and by antiseptic dressings, since in that way we shut off the natural and only mode of entrance into the wound; but it is quite otherwise when we have once to deal with systemic infection and intoxication, as no drug has yet been suggested in any one of the septic processes, that proves at all times efficient as well as harmless, internal use of bactericide agents being very unreliable and occasionally injurious to the body. Our present knowledge of the intimate nature of sepsis and of the doctrine of immunity would seem to suggest that so far our chief reliance must depend upon cleanliness, cheerful hygienic surroundings, upon proper nutrition, to reinforce the tissues in their defensive powers; and, upon elimination, to drain the various toxines from the system through the different emunctories.

20. Hence, since within favorable environment every specific germ produces its own characteristic poison, and each poison its own characteristic effect, it is very important and desirable, that standard vitality of structure and adequacy of function, not only of larger organs, but of every solid and fluid tissue, of every individual component cell and its protoplasm be well maintained. On these conditions depends our safety; because, within them is vested the power to check invasion and the progress of micro-organisms.

SPINA BIFIDA OCCULTA.*

By A. BOWEN, M. D.,
NEBRASKA CITY, NEBRASKA.

On January 25th, 1892, I was called to J. L., a young man, who, though wasted by a month's severe sickness, gave promise by his muscular endowment, of the eulogium I had heard a farmer of my acquaintance bestow upon him, that he was the most profitable hand he had ever hired.

I found him with an irritable pulse of ninety-eight, face bedewed with perspiration and many signs of hectic fever; with great prostration, and all the symptoms justifying the prognosis of the medical man who had preceded me and who said to his mother that he would not live ten days. He was twenty-four years of age and wasted as he was, it was a laborious task for his friends to support him twenty inches above the bed, while I examined his back where all his complaint centred. I found it one vast burrowing abscess, from his shoulder-blades to his hips. It had been lanced at two points not far from the spine, without any attempt at a valvular opening, and without any regard to antisepsis. It needed but very little encouragment from a probe to evacuate from fifteen to twenty ounces of fluid, part of which was unmistakably pus, and part seemed something else, and much thinner. I found a yielding elastic, protuberance at the foramen-magnum, about the size and shape of half an egg, which his mother insisted never showed itself till after he was ten years of age. Convinced from the first that we must have more available means of suspending him above the bed for the purpose of dressing and examining his back, I bethought myself of a block and tackle, and it answered an excellent purpose for thirty-eight days. Feeling assured that the wonderfully profuse secretion from his back, jeopardized his life, I sent into every part of the abscess, by means of a small glass syringe, a four per-cent solution of carbolic acid, and as I found it immediately effective, I reduced the strength from day to day, till I was soon using only a two per-cent solution, and the secretion of pus from all the apertures did not amount to

*Read before the Nebraska State Medical Society, May 10th, 1892.

one-fourth of a teaspoonful per day, and the thinner fluid which exuded from two of what were now ulcers, at the point which had been lanced, did not amount to more than one-fourth of a teaspoonful. I was satisfied that this thinner fluid had been intended by nature for lubricating the cavity of the spinal cord. I once had borne into my hands an ordinary case of spina-bifida, in which before I left the house I had to protect the exceedingly thin membrane with a piece of oiled-silk, and as long as the child lived, there was an exudation of similar fluid. I felt under many obligations to the ladies in his neighborhood for supplying him with delicacies from their own tables, till a natural, healthy appetite rendered it unnecessary. For two months now, the patient has sat upon a chair for me to dress his back, and although I talk encouragingly to him, it seems almost impossible to cover with cuticle the ulcer from which exudes the thin fluid. He is industrious, and saws all the wood for family use. The bed-sores, (at one time very threatening) have all healed, and he seems in a fair way for perfect recovery, but I shall always give a guarded prognosis of his future. I cannot learn of any blow or strain his back has received at any time, but I learn from measurement that his left arm is a full inch smaller than his right arm, and from palpation I learn that from about his fifth cervical vertebra clear down through the dorsal and into the lumbar, I cannot distinguish any projections for any of the vertebra below the fifth cervical. He commenced complaining of severe pain about the foramen-magnum about January 1st, and the tumor at that point increased in fullness at that time, though apparently empty. I consider his ailment as a manifestation of *la grippe*. When tired, he complains of a tingling sensation in the third and fourth fingers of his left hand. I view the primary lesion of la grippe as a neurosis; followed in many instances by sequels threatening to life, through pulmonary or bronchial disease.

FOR PAINFUL GUMS IN CHILDREN.

The Paris correspondent of *Arch. of Pediat.*, mentions the following:

℞ Cocain. hydrochlorat.
Camphor. pulv .....ää centigrammes x.
Glycerini.....grammes x.
Essent. menthæ (to flavor)....q. s.—M
Sig.—Rub a little of this on the gums with the finger.

WHAT'S THE MATTER?

By J. M. SHAFFER, M. D.,
KEOKUK, IOWA.

That is the all-important question which confronts the physician. The shelves of libraries are full of books which present it in one form or another. It is the foundation thought of all the multiform divisions of the art and science of medicine. What's the matter? and physiology, pathology, anatomy, chemistry and the like try to give an answer! The strong man is stricken down in field or street or shop; he lies as he fell; his pupils, skin, breathing, pulse ask you what's the matter? He is unconscious; he neither knows nor cares; and the automatic acts make the inquiry. The infant spreads its oral muscles to their utmost capacity and cries with its full volume of voice, draws up its legs and throws its arms in varied movements; tears run over the cheeks: the tongue and chin quiver and these all insist upon the question, what's the matter? The boy gets a hurt on some part in his sport, and it is of immeasurable worth to know what's the matter. A score of patients will not only tell their symptoms, but, educated in the medical almanacs and still more specious descriptions of disease in the daily press will tell what's the matter. They buy and pay for, and drink, swallow, apply and rub in dollars and dollars because they have discovered what's the matter. People feel their own pulse, examine their own tongue, go so far as to take their own temperature; estimate the significance of a pain—of a disordered sensation—of a morbid condition of the mind—and straightway determine for themselves, what's the matter and, of course, dose themselves with what some one told them was good for this thing, that thing or t'other thing. The physician's very first office is to discover what's the matter. The man who knows positively what's the matter has the advantage over the man who is merely a good guesser. Here in a given patient is an assemblage of signs and symptoms, a co-relation or an opposition chill, fever, loss of appetite headache. Bilious fever—that's what the matter. But it may be a hundred other things by name and it may not be bilious fever at all; be *certain* what's the matter. A lad meets with a tumble and hurts a

knee or hip: 9,000 other boys fell and hurt a knee or a hip; but the one boy had a pain left recurring here and there; he doesn't mind it, but after a while he walks lame. What's the matter? If not accurately determined, this one boy will go through life on crutches. And so on. What's the matter? is the one thing the physician *must* know positively clearly and be able to give a reason for his *knowledge*—absolute; not, for his opinion merely. It makes very little difference what is not done, provided it is known what's the matter. The vast majority of cases could recover without any medicine if all concerned were certain as to what's the matter and it may be that once in a century or two a man dies because the physician did not know what's the matter. It is not improbable that once in a great while a patient recovers in spite of the treatment, the doctor never being able to tell—not knowing—what's the matter.

The momentuous question at the bedside must ever be, what's the matter. A lawyer has the advantage over the physician. Ordinarily the lawyer knows little more of law than the common people, but he knows where to find it when he wants it: and can tell his client what's the matter. The physician cannot leave his patient and ransack his library: but he must *know* then and there what's the matter. If he does not know, it were well to give a placebo, that may do no harm until he ascertains certainly what's the matter. There can never be a justification for a shot at random; that is merest charlatanism. Better hesitate than prescribe a remedy unless there is unmistakable certainty as to what's the matter.

There is opportunity to score a point in telling the patient what's the matter. A lady had been bled, some drops of blood escaped into the subcutaneous cellular tissue causing a discoloration very frequent in such cases, and is of no significance. She sent for the doctor. He was a plain man, he told the patient it was caused by a few drops of blood settling in the skin; and told her to put on a wash of very weak sugar of lead water; that it would go away in a day or so, and she needn't bother about it. But he didn't tell her what's the matter.

The lady was alarmed, and wanted to know what's the matter. She sent for quite another sort of man. Oh! my dear madam, you would know what's the matter? We have here an ecchymosis.—Great Scott! you don't mean it? We will bandage it, carefully moisten the dressing with a solution of saccharum saturni, called in the Eastern Hospitals, vegeto-mineral lotion. There is no immediate danger. In a week the sanguineous effusion in the adjacent areolar tissue will be absorbed and the parts restored to their normal condition. Five dollars—thanks. She found out what's the matter.

Many cases and diseases are incurable; we must know what's the matter to satisfy the friends of the patient. Very many diseases have a determinate course; we must tell patient and nurse what's the matter, and that we can only keep away injurious influences and conduct the case to recovery. To know what's the matter is the enduring crown of glory which encircleth the brow of the well-bred, intelligent, thoughtful, Christian gentleman and physician.

GENERAL PARALYSIS OF THE INSANE IN A BOY.

Charcot and Dutil (*Arch. de Neurol.*, March, 1892) describe a case of general paralysis commencing at the age of 14 years. Up to that period the boy had exhibited nothing abnormal in his mental or physical development. Naturally vivacious and intelligent, his disposition changed at the incidence of puberty, and dementia set in; he became dull, and anergic, lost his memory, could not keep accounts. At 16 years, mental decay and arrest of somatic growth were striking; the patient's appearance was childish, evidences of pubescence were slight. There was no emotional exaltation or grandiose delusion. Tremor present in lips, tongue, and hands; anisocoria, with abolition of light reflex; articulation notably impaired, gait unsteady. Now and then an attack of "sensory epilepsy" occurred; a tingling sensation ascended from the right foot to the right half of the trunk, head, and tongue, and thence spread to the right fingers. Recurrence of so-called "congestive seizures" completed the clinical picture. Neuropathic heredity seemed to be the only recognizable ætiological factor; the patient's father was an inebriate, a first cousin was insane at periods, two grandparents died paralyzed.—*Brit. Med. Jour.*

Selected Formulæ.

AMENORRHŒA.

Prof. Lutaud, of Paris (*Manuel des Maladies des Femmes,* Paris, 1891), recommends the following formulæ in amenorrhœa:

℞ 1. Extr. nucis vomicæ.....gms. 1.50.
Ferri arseniat.....dgms. 6.5.
Mangan. sulphat. sic..... .. gms. 12.
Sufficient for one hundred pills. Three pills a day.

℞ 2. Ferr. et potass. tartrat.....gms. 5.
Extr. artemesiæ.....
Extr. absinth.....} āā gms 2.
Aloes.....gm. 1.
Essent. anisi, q. s.
Sufficient for fifty pills. Two pills after each meal.

As an emmenagogue:

℞ 3. Pulv. indigo.....gms. 30.
Pulv. artemesiæ..... .. gms. 15.
Pulv. zinziber.
Pulv. valerian.
Use raspberry syrup sufficient to mix well; add honey as much as is desired. Two to four coffee spoonfuls two to four times a day.

In chlorotic amenorrhœa:

℞ 4. Ferr. dialyzat..... ...
Aq. cinnamon.....} āā gms. 50.
A dessertspoonful two or three times a day.

THE THERAPEUTIC APPLICATIONS OF THE PHENATE OF COCAINE.

This salt is highly recommended by Von Oefele (*Revue de Therapeutique Medico-Chirurgical,* April 15, 1892) in practical medicine. The analgesic action of the new combination is said to be superior to that of cocaine by itself, while the small quantity of the alkaloid contained in it lessens the chances of producing poisonous effects, when hypodermatically administered. Here are some of the combinations recommended by the author:

(1) As a local application to the pharynx, tonsils, etc.:

℞ (*a*) Phenate of cocaine..... 1 gramme.
Absolute alcohol.....10 grammes.—M.
Sig.—Use externally.

℞ (*b*) Phenate of cocaine..... ..... 1 gramme.
Alcoholized sulphuric ether.....10 grammes.—M.
Sig.—External use.

(2) For hypodermatic injections, and for instillations into the ear, as in the case of otalgia:

℞ Phenate of cocaine.....10 grammes.
Dissolve in alcohol..... 5 grammes.
Add distilled water..... 5 grammes.—M.
Sig.—Inject the contents of one to three Pravaz syringefuls of the solution.

(3) For spraying, or for inhalations, in affections of the larynx and bronchi:

℞ Phenate of cocaine.....10 centigrammes.
Menthol..... ....25 centigrammes.
Dilute alcohol.....10 grammes.—M.
Sig.—One fifth of this solution is used, for spraying, in the course of the day.

(4) In the treatment of acute and chronic nasal catarrh:

℞ Phenate of cocaine.....20 centigrammes.
Pulverized boric acid..... . 2 grammes.—M.
Sig.—External use.

(5) In the treatment of affections of the stomach:

℞ (*a*) Phenate of cocaine.....5 centigrammes.
Subnitrate of bismuth.....2 grammes.
Mix and divide in five *cachets.* Sig.—In cases of gastralgia, one *cachet* in the morning, before breakfast, or one hour before the expected principal crisis.

℞ (*b*) Phenate of cocaine.....7 centigrammes.
Powder of condurango..... ....1 gramme.
Mix and divide in ten small *cachets.* Sig.—In cancer of the pylorus, one *cachet* in the morning before breakfast.

—*Univ. Med. Mag.*

ACUTE ARTICULAR RHEUMATISM.

Dr. A. Hennig (*Le Bulletin Médical,* No. 44, 1892) recommends the following potion in the treatment of acute articular rheumatism:

℞ Salipyrine..... ..... 6 grammes.
Glycerine.....14 grammes.
Raspberry syrup..... 30 grammes.
Distilled water.....40 grammes.
To be taken in the course of the afternoon, a spoonful every fifteen to twenty minutes.

According to the writer, the action of salipyrine, like that of the salicylates, is especially manifest if one administer it during the afternoon, in frequently repeated doses, with a total dose of from four to six grammes. Two or three hours after the last dose the temperature falls one or two degrees and the pains become less. The patient passes a good night, and, although the temperature rises the next morning, it does not reach the height that it did before.

IN UTERINE HÆMORRHAGE.

Huchard (*Revista de Ciencias Médicas de Barcelona,* April 25, 1892) uses this prescription:

℞ Ergotine.
Sulphate of quinine, of each.....2.00 grammes.
Powder of digitalis.
Extract of hyoscyamus, of each.0 20 gramme.
M. and make twenty pills. Sig.—From five to eight pills per day.

PALATABLE CASTOR OIL.

Treat the best grade of castor oil with hot water repeatedly, then add enough saccharin to give it a syrupy taste. A minute quantity of the aldehyde of cinnamon oil and of vanilla flavoring will cover any remaining disagreeable flavor. This process is said to impair neither the efficiency nor permanence of the oil.

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Leading Articles.

RECTAL GONORRHŒA.

The literature on the subject of rectal gonorrhœa is very meagre. The first mention of this variety of gonorrhœal infection we find in French writings.

In 1879, Hecker, of Paris, spoke of having observed a putrid discharge from the rectum of men and women who indulged in *coitus praeternaturalis*, which resisted all treatment. Rollet, in 1868, reported the case of a woman who in order to assist defæcation had inserted her finger into the rectum, and in this way carried the infection from the urethra, at which time she was suffering from gonorrhœa.

Rectal gonorrhœa in the male, according to the majority of French writers, occurs principally among those who submit to rectal coitus, especially boys who are used for pæderastic purposes. In the female it frequently results from self-infection, since the gonorrhœal secretion runs down between the labia, and so reaches the anal opening.

The first symptoms of rectal gonorrhœa are local itching, stinging sensations, and a feeling of uncomfortable warmth in the rectum. Later, painful defæcation and tenesmus are added. Objectively, one may find inflammation and swelling of the parts, as well as great irritability of the anal mucous membrane, and many erosions marking the parts almost like a map. This last are caused by the abundant secretions, which also cause eczema of the anal region. Examination will also usually reveal the well known signs of pæderasty.

In many cases rectal gonorrhœa can be successfully treated by suitable means, but more frequently it proves to be a most stubborn disorder, assuming a chronic form.

Our knowledge of this subject has been greatly enriched by a contribution by Dr. Franz Frisch, of Wurzburg, in the *Medi-*

cinische Neuigkeiten. Dr. Frisch gives the history of a case that will bear careful reading. The patient was a girl, seventeen years of age, a "puella publica" by occupation, who applied for treatment while suffering with urethral gonorrhœa. After a few days, she began to complain of pain in the rectum, and soon of the typical symptoms of rectal gonorrhœa as described above. The patient also confessed that she frequently had submitted to rectal coitus. The microscopical examination of the anal secretion revealed the presence of numberless gonoccoci of typical form. Their presence continued during the eight months of the patient's stay in the hospital, although the gonoccoci had disappeared from the urethra three months previously. During the patient's life a small portion of the rectal mucous membrane had been excised for the purpose of examination, but the examination was not made until after the patient's death, which occurred a year later from phthisis. The condition of the mucous membrane was found to be as follows: There was a loss of the glands of Lieberkühn, which were replaced by atypical glandular tissue, an infiltration of round cells, reaching the tunica muscularis of the rectum, and especially around the glands of Lieberkühn; there was considerable vascular engorgement, especially in the sub-mucous membrane. The polynuclear round cells were filled with the Neisser diploccocus, and the germ was in the tissues, in the lumen of the glands of of Lieberkühn, and in all parts of the tissues where a loss of substance was evident. The gonoccoci were not found to have penetrated either the muscula mucosa or submucosa, but the infiltration of the round cells reached the tunica muscularis.

In discussing these cases Dr. Frisch writes: "The demonstrated existence of ulcers and atypical glandular growths in chronic rectal gonorrhœa brings into prominence the thought that in all probability those ulcers of the rectum which are neither tubercular nor carcinomatous, rectal gonorrhœa plays a most important rôle. This is very probable when it is remembered that rectal ulcers of an uncertain origin occur almost exclusively among women, and also when the large predominence of rectal gonorrhœa among woman is taken into consideration. Finally, it should also be remembered that the most energetic local treatment with sitz-baths, irrigations with astringents and disinfectants, the insertion of cotton for the absorption of the secretion—in fact such active treatment for a period of six months as was pursued in the case alluded to, may be found wholly unavailing. Whether the use of cauterization or the curette would yield better results, practise only can answer, but it is probable since the gonoccoci only penetrate the superficial portions of the mucous membrane."

THE CONNECTION BETWEEN ARTHRITIC DIATHESIS AND TUBERCULOSIS OF THE LUNGS.

In an exhaustive article in the *Deuteches Archiv für klin Medicin*, Vol. XLVII, Dr. A. Sokolowski has dealt most ably with those forms of tuberculosis of the lungs in which various symptoms of an arthritic nature are manifested, especially renal colic, and gives some valuable points regarding the treatment of the semanifestations. He claims that in the case of a subject with extensive induration of the apex of the lung, where the general condition is excellent, and where the various manifestations of an abdominal plethora exist, that the former condition should be regarded as secondary to the latter, that the therapy should be exclusively applied to the treatment of the latter manifestations, and that these alone should receive the physician's immediate attention. Sokolowsky has found by experience, if the therapy is modified to meet the condition of the lungs, and consists in the exhibition

of slightly alkaline, or saline-alkaline mineral waters, such as Vichy or Ems, the results are by no means satisfactory; while, on the other hand, if the alkaline bitter-waters, Marienbad, or even Karlsbad, are used the results in the large majority of cases are most excellent. Of course, such a course of treatment must be undertaken with a degree of caution, and be controlled by the condition of the urine. The ground work of the further treatment should be based on dietary and hygienic principles and is as follows:

1. DIET.—The author is adverse to the view that albuminoid foods should be withheld from the patient, but accepts Thompson's opinion in that he avoids the use of either fatty or mealy substances. Alcoholic drinks should be restricted as far as possible. It is this latter form of stimulant nourishment that is always given to consumptives, and this is regarded by the author as a frequent cause of artificial diathesis. The amount of nourishment given to the patient should always be guided by the amount of physical exercise. The age of the patient must also be taken into consideration ; the older the individual the less his organism requires. Regarding the articles of diet which should be avoided by the patient the following may be included: milk, milk and water, butter, cheese, egg, cake, mealy foods, and, indeed, all dishes in the preparation of which sugar is used. The following articles, on the other hand, may be partaken of with impunity: Lean meats of various kinds, fish, game, young fowl, well-baked bread in small quantities, rye-bread similarly, vegetables both fresh and dried, but especially fresh peas, beans and the like, as well as fresh salad and asparagus. Regarding potatoes, in spite of the larger quantities of starch they contain, they may be partaken of sparingly. Among fruits, apples and any other which contain only a small amount of sugar may be eaten. Regarding fluid, all spirituous drinks, and especially beer, should be avoided, while pure cold water or slightly alkaline waters, such as seltzer, may be taken as desired, yet a moderate amount of water only should be drunk, this restriction being a most important dietary factor. Water acts as a sort of mechanical rinser of the tissues and especially of the renal canals, and by washing out the uric acid sediments it decreases both the specific gravity and the acidity of the urine.

2. Movement, or exercise, is also a most important dietary factor. The patients should whenever possible take walks in the open air for several hours every day. In bad weather, and with those patients who suffer from bronchial catarrh, suitable gymnastic exercise should be indulged in at home, and necessary apparatus for the same provided.

3. The careful maintenance of a regular action of the bowels is most important. The above diet will usually be found to keep the bowels in order, but when irregularities exist massage should be employed. and from time to time some saline aperient exhibited, bitter-water (Hunyadi) being the best for this purpose.

4. The maintenance of the proper function of the skin is also of great importance. The best means of securing this is to sponge the entire body with tepid water, followed by a brisk rubbing down with a coarse towel. Those patients who cannot endure a cold sponge bath may substitute luke-warm water, but to be followed by a brisk rubbing down sufficient to cause friction of the skin. Steam or Turkish baths are not advisable unless taken with great caution, since in consumptive subjects they are apt to cause hæmoptysis. At best they must be regarded as decidedly risky.

The results of such a hygienic and dietary course of treatment will be marked, and the arthritic manifestations renal colics, arthritic diseases of the joints, or others—will not only be

greatly relieved but may disappear entirely. Surely the method, simple as it is, is worthy of extended trial and investigation.

Book Reviews.

THE ELECTRO-THERAPEUTICS OF GYNÆCOLOGY. By August H Goelet, M. D. Fellow of the New York Academy of Medicine, and of the New York Obstetrical Society; Vice President of the American Electro-Therapeutic Association; Editor of the Archives of Gynæcology, Obstetrics and Pædiatrics. Detroit, Mich: Geo. S. Davis. Two volumes. 1892.

We heartily welcome these two volumes of the Physicians' Leisure Hour Series, in which Dr. Goelet has included the gist of the theories and treatment followed by Apostoli and his disciples, coupled with the results and suggestions of his personal experience.

The American literature on this subject, although abounding in journal articles and society reports, does not furnish any concise and complete work, and to Dr. Goelet is due the credit of amassing a great many useful facts concerning this important branch of gynæcology.

The first volume treats exclusively of electro-physics and electro-physiology, giving good descriptions of the apparatus used clinically. A number of ingenious electrodes and other instruments have been added by the author to those we already possess. The second volume deals with electro-therapeutics; and all of the various gynæcological affections in which electricity is employed are taken up seriatim.

Whatever views the reader may entertain regarding the use of electricity in certain uterine diseases, especially in fibromyomatous growths, this book impartially relates the results obtained by the author and others, and in consideration of the brief time which has elapsed since electricity was lauded by some as the remedy *par excellence* in these conditions, it may be said to be a wholly conservative statement of its real range of usefulness. Notwithstanding the modest preface by the author, this little work shows careful preparation, and will no doubt receive considerable attention from those interested in the advancement of this important field of therapeutics.

Periscope.

THERAPEUTICS.

TREATMENT FOR DANDRUFF.

The *American Soap Journal* commends the treatment suggested by Dr. Shuldhams, which is thus given in the *Lancet*:

The head should be first well washed with hot water and alcoholic soap. The latter is made from 2 ounces of pure soft (potash) soap, ½ ounce of alcohol and 10 minims of oil of lavender. After well rubbing it in the hair wash it away with plenty of hot water and thoroughly dry with a warm soft cloth. When the head is quite dry use a glycerole of tannin (10 to 30 grains to the ounce) and rub firmly into the scalp. If tannin does not seem to aid, resorcin may be used. This is to be done from one to three times a week. The following dressing may be used; Carbolic acid 20 grains, oil of cinnamon 60 grains, olive oil 2 ounces. Apply daily.

EXALGINE POISONING.

A Lockhart Gillespie (Edinburg) communicates notes of a severe case of exalgine poisoning (*Medical Press*, 1892, No. 2758). The patient, aged twenty-three years, took four doses of exalgine (methyl-acetanilide) in the course of the day (about thirty-six graines in all) for the relief of toothache.

When seen about midnight he was lying insensible, with rigid neck and retracted head, widely dilated, sluggish pupils, quiet, deep breathing, and a pulse of 79, of good tension. Soon after he became more sensible and complained of hammering inside the head. Speech was indistinct and he could not move the trunk or limbs voluntarily. Every few minutes there was a convulsion, beginning with "risus sardonicus" and groaning, followed in order by violent rolling of head and neck, spasm of cervical muscles, rigidity of both arms, and spasmodic contractions of abdominal muscles, the legs being barely affected. Tapping the head caused pain and brought on a convulsion, as did pricking the arm.

During the paroxysms the pain over the vertex was almost unbearable. At 1 A. M. ¼ gr. of morphine was injected, cold cloths applied to the head, and an hour later two purgative pills were taken. A little later he became more paralyzed and

the convulsions more frequent. Of superficial and deep reflexes the cremasteric alone could be elicited

The patient still complained of intense headache, inability to see, and total anæsthesia. As the pupils contracted the fits became less frequent. At 4.15 A. M. he was quieter; breathing central, almost Cheyne-Stokes. Pupils contracted, anæsthesia still universal. Urine presented no special features. He had a few spasms of muscles during the earlier part of the day; toward evening the anæsthesia was passing off. The excitement consequent on the visit of some friends determined a slight return of convulsions and anæsthesia during the night. The removal of the offending tooth on the following morning gave rise to a few slight convulsions, after which recovery was rapid. Temperature remained down throughout.—*Amer. Jour. Med. Sci.*

A NEW TREATMENT FOR CHLOROFORM SYNCOPE.

The method of treating cases of chloroform syncope resorted to in the clinique of Prof. Koenig, of Gottingen, is said to have given very good results, and as it is simple enough, it may be worth trying. It consists in applying manual compression over the cardiac region some thirty or forty times a minute, another assistant compressing the thorax as a whole at regular intervals in order to facilitate respiration. The compression is claimed to have for effect to empty the right ventricle, which in these cases is engorged with blood, and thus to bring about a return of the circulation. Prof. Koenig's assistant, Dr. Maas, recommends pressure more frequently repeated, and at much shorter intervals, and by this means he succeeded in reviving two patients who had shown no sign of improvement under the original plan. The operator stands to the left of the patient and presses the thumb deeply at a point midway between the apex beat and the edge of the sternum, repeating the process about 120 times a minute. Almost at once the dilated pupils contact, and the presence of an artificial carotid pulse can be felt. After a time spontaneous respiratory efforts are noticed, which are the signal for discontinuing the pressure and the artificial respiration, so long as the contraction of the pupils is maintained and the respiratory efforts do not again cease. —*Med. Press.*

CONTRARY ACTION OF CERTAIN DRUGS.

Dr. R. Lepine (*La Semaine Médicale*, 1892, No. 4, p. 21) reports an instance where ergot produced a congestion of the face. He prefers to call this an accessory action rather than, strictly speaking, a contrary one. A similar result occurred in a phthisical patient who had received one seven-and-one-half-grain dose of acetanilide, when there was marked perspiration but intense congestion of the face. This is not a paradoxical case, for, indeed, the vaso-dilators are more readily excited, and a small dose can influence these without exciting their antagonists, and in this case with diminished dose the congestion was at its height. In a case of severe acute articular and visceral rheumatism the salicylate of soda apparently caused jaundice due to congestion of the liver, and as well a rise in temperature. He believes that, exceptionally, due to particular conditions of the patient, an antipyretic may be responsible for a rise of temperature.

MEDICINE.

THOMSEN'S DISEASE IN A PARAMYOTONIC FAMILY.

Delprat publishes (*Deutsch. med. Woch.*, No. 8, 1892) two cases of congenital myotone associated with congenital para-myotone—a combination of morbid states that has not previously been described. In both the patients (brothers) the peculiar tonic spasm excited by cold, characteristic of the latter affection, developed in early childhood and involved the muscles of the face and extremities. The generation to which these patients belonged numbered 27 persons, 8 of whom were affected with paramyotone. A similar number suffered in the preceding generation, and 4 out of the 6 individuals who comprised the antecedent generation were subject to the malady. There were good reasons to conjecture that the mother of the 4 persons last mentioned was paramyotonic; assuming that she was, the heredity was continuous in certain lines of her descendants; in no other case was it atavic. The mother of Delprat's patients exhibited a severe degree of the affection before her marriage, but was comparatively free after—a fact which is noteworthy in connection with the well-known effect of pregnancy upon the general circulation. The symptoms

of Thomsen's disease appeared about the age of 15 in one of the patients, at a much earlier age in the other. Eulenburg's "myotonic reaction" was distinctly marked, but there was no tendency to closure tetanus, and a rather strong current was needed to produce minimal contraction. A persistent shortening of the digital flexors was observed; the fingers could be straightened by passive movement, but when in that position hyper-extension of the hand on wrist was impossible. The hyper-extension could only be produced when the fingers were allowed to flex.—*Brit. Med. Jour.*

PURPURA OF THE MUCOUS MEMBRANE OF THE MOUTH, PHARYNX, AND LARYNX.

Audubert (*Annales de la Policlinique de Bordeaux*, 1891, No. 5) has recorded the case of a man, fifty years old, with tuberculosis of the larynx and lungs, in the course of which purpuric spots appeared upon the uvula, the tongue, the gums, and in the larynx and pharynx, but nowhere upon the skin or in the nares. —*Wiener klin. Wochenschr.*, 1891, No. 43, p. 813.

FUNCTIONAL MITRAL DISORDER.

V. de Risi has observed in cases of chlorotic and readily-excitable girls a distinct presystolic murmur which, in a case demonstrated by Professor Senise, showed few interruptions. He formulates a hypothesis, based on an elaborate theoretical study, that the presystolic murmur can only be of mechanical origin, arising from an inorganic functional defect of the auriculo-ventricular orifice, namely, from functional stenosis. For the anatomical basis of this condition he quotes Paladino's anatomical description of the muscular fibres extending from the auricle to the ventricle. De Risi further tries to prove that the systolic heart murmurs which arise in anæmia are a result of malnutrition of the heart muscles, and that they must arise directly from disease of the muscular bands which extend from the ventricle to the valves (tensor apparatus). The disease of these bands causes an irregularity in the closure of the valves in consequence of abdominal contraction of the heart muscles.—*Centrlblt. f. klin. Med.*, No. 23, 1891.

ON PSEUDO-TABES, OR TABES PERIPHERICA.

Dr. H. Higier discusses this disease whose differential diagnosis from true locomotor-ataxia is often very difficult. It is due to a form of multiple-neuritis in which the sensory sphere is most involved. He suggests that all tabes reported recovered be treated with suspicion unless it be clearly proven that they are not cases of pseudo-tabes. The ætiology is tolerably clear. It is either toxic (lead, arsenic, alcohol, etc.) or toxæmic (diphtheria, variola, typhoid) ,or rheumatic (catching cold) in character. The ataxic walk comes on earlier in peripheral than in true tabes. In alcoholic tabes muscular atrophy begins early, as well as the electrical changes. The presence of R. D. speaks against true tabes, although the electrical condition is extremely variable in pseudo-tabes. The absence or presence of the patellar reflex is not of value in the differential diagnosis. Optic neuritis, if present, speaks strongly for a peripheral origin. The Argyle-Robertson symptom never occurs in pseudo-tabes, although opthalmoplegia does sometimes occur. The Romberg symptom occurs in both forms. The absence of vesical and rectal disturbances, of the girdle sensation, and of the gastric and laryngeal crises, all have a certain value in differential diagnosis. He then relates the histories of three cases of pseudo-tabes of rheumatic origin (catching cold), all of which showed considerable improvement under appropriate treatment.—*Deutsche Medic. Wochensch.*, No. 34, 1891.

SURGERY.

TREATMENT OF TRACHOMA.

W. F. Strangways (*Ophthalmic Record*, April, 1892) doubts the value of excision of the retrotarsal folds, through scarification of the conjunctiva, and then scrubbing it with a solution of bichloride of mercury, and other violent forms of operative procedure which have been advocated in the management of chronic trachoma. He strongly advocates the method, originally devised by Dr. Hotz, of crushing the follicles between the thumb-nails. It is very important that there should be proper exposure of the surface, and for this purpose it is advised that the

lid should be everted in the usual way; then the everted lid should be drawn upward with one thumb, while the other exercises firm backward pressure on the eye through the lower lid. The patient should be directed to look downward. As the eye is pressed backward the fold everts.—*Ther. Gaz.*

EXTIRPATION OF THE LARYNX.

The number of cases in which the operation of removal of the entire larynx has been successfully performed is gradually increasing. The latest of these was recorded by Professor Wolff at the recent session of the Surgical Congress at Berlin, where the patient was exhibited eight months after the operation. The interest of the case is enhanced by the fact that by means of an artificial larynx, invented by Professor Bruns, the patient is able to speak and sing, as illustrated before the Congress by his recitation of a monologue from Schiller's "William Tell" and his singing of "Gaudeamus igitur."—*Lancet.*

INTESTINAL OBSTRUCTION FROM GALL-STONE.

This subject has been discussed by Mr. Jonathan Hutchinson, who points out that in many cases the obstruction must come about reflexly, probably from spasm, as the size of the stone precludes the idea of a mechanical stoppage. Dr. James Israel relates a case of ileus very closely allied to Mr. Hutchinson's case. The stone removed was a small one—not more than three-quarters of an inch in the greatest diameter, so that it was impossible it would prevent the passage of gas and fluids in a distensible bowel. The patient was a lady 72 years of age, who suffered from constipation and colic of seven days' duration and severe vomiting of black material for four days, recurring every few minutes. The abdomen was soft, not actually distended, and without a trace of visible peristalsis. On laparotomy, there was found a stone in the jejunum. The intestines showed no sign of movement. The small intestine above the stone was not in the least distended; the large intestines were empty. The stone could be readily moved in either direction, so that a mechanical occlusion was out of the question. Israel hesitated at first to look upon this as the cause of trouble, and examined in vain the whole intestines. The stone was excised and the bowel opening stitched to the abdominal wound. The cessation of the dark vomit and the passage next morning of a copious stool showed that the obstruction had been removed. Unfortunately the patient died very suddenly thirty hours later of angina pectoris, from which she had previously suffered.—*Berlin. klin. Wochenschr.*, No. 1, 1892.

THE OBJECTIONS TO THE INSERTION OF DRAINAGE-TUBES INTO WOUNDS.

In the *Maryland Medical Journal* for November 14, 1891, Professor William H. Welch summed up the objections to the inserting of drainage-tubes into wounds as follows: First, they tend to remove bacteria, which may get into a wound, from the bactericidal influence of the tissues and and animal juices. Second, bacteria may travel by continuous growth or in other ways down the sides of a drainage-tube and so penetrate into a wound which they otherwise would not enter. He has repeatedly been able to demonstrate this mode of entrance of the white staphylococcus found so commonly in the epidermis. The danger of leaving any part of a drainage-tube exposed to air is too evident to require mention. Third, the changing of dressing necessitated by the presence of drainage-tubes increases in proportion to its frequency the chances of accidental infection. Fourth, the drainage-tube keeps asunder tissues which might otherwise immediately unite. Fifth, its presence as a foreign body is an irritant and increases exudation. Sixth, the withdrawal of tubes left any considerable time in wounds breaks up forming granulations and thus both prolongs the process of repair and opens the way for infection. Granulation tissue is an obstacle to the invasion of pathogenic bacteria from the surface, it has been proved by experiment. Seventh, after removal of the tube there is left a tract prone to suppurate and often slow in healing. To these Dr. Halsted adds an eighth: Tissues which have been exposed to the drainage-tube are suffering from an insult which more or less impairs their vitality and hence their ability to destroy or inhibit micro-organisms.

PROSTATECTOMY.

Dr. Tobin (*Medical Press and Circular* December 2, 1891) has successfully practiced an operation for senile prostatic enlargement, which consists in first making a suprapubic incision. A wire doubled and suitably curved is then passed through the urethra into the bladder. A straight sound arranged to receive the wire is then passed till it impinges against the urethral obstruction. The wire loop lying in the bladder is then slipped over the enlarged lobe by means of one or two fingers passed through the suprapubic opening, and while held in place traction is made until it cuts its way through, aided by the counter-pressure of the sound. The following advantages are claimed for this method: 1. As much of the gland as interferes with the escape of urine is removed and no more. 4. Such portion of it is removed in a satisfactory manner, for the wire starts from the point where the finger defines the obstruction on one side, and cuts up to the point where the instrument does so on the other. 3. A smooth surface, sloping into the urethra, is left, instead of the more or less rough one, that must result from taking away the gland piecemeal with a forceps. 4. There is very little hæmorrhage. No brilliant results are to be expected from any operation, and one should be undertaken only as a last resource. When dealing with youth we may talk of a cure; when treating the aged we may consider ourselves lucky if we succeed in making them a little better.

OBSTETRICS.

TWO EXTRAUTERINE PREGNANCIES IN THE SAME SUBJECT.

Boisleux (*Nouvelles Arch d'Obèst. et de Gynéc.*, May, 1892) observed a case where tubal pregnancy at the third month was diagnosed, and six days later there were clear symptoms of ruptured tube. An operation was immediately performed. On opening the abdominal cavity, a jet of blood gushed out: the fœtal sack was secured. Seven weeks later the patient was again found to be the subject of extrauterine pregnancy. There was a hæmatoma on the left side which rapidly grew large. A second abdominal section was performed. There were intestinal adhesions, and no pedicle could be found, as the fœtal sack was deeply situated in the left broad ligament. No ligature could be applied, but the cavity was plugged. When the bleeding was checked, a second plug was applied, and left twenty-eight hours in place, projecting above through the abdominal wound. A T-drainage-tube was inserted into the sac through the vagina. In April, 1892, the patient, aged 19, was in good health. Boisleux found chorionic villi and decidual cells in both fœtal sacs.—*Brit. Med. Jour.*

PARASITIC FŒTUS.

Leon (*Archives de Tocologie*, February, 1892) reports a curious case of double monster of the parasitic variety. The patient, a girl 3 years of age, was the daughter of native Mexican parents. She exhibited on the left gluteal region some well-marked portions of a fœtal face. These were the upper and lower eyelids of the left eye with eyelashes and eyebrows, an upper lip which perfectly covered a part of a rudimentary upper-jaw furnished with three or four well-developed incisor teeth, and a small buccal cavity with a rudimentary tongue and some fluid secretion. When the eyelids were separated a red surface analogous to the conjunctiva was exposed. Near to the groove between the buttocks was a row of silky hairs, and quite close to the base of the implantation of the upper lip was a small superficial opening. In the inferior part of the cyst the presence of fluid was detected, and on the surface of the parts were seen some mammillary projections.—*Brit. Med. Jour.*.

UNCONTROLLABLE VOMITING IN A PREGNANT WOMAN AT THE FOURTH MONTH TREATED BY SUGGESTION—CURE.

Choteau (*Archives de Tocologie et de Gynecologie*, April, 1892,) was called to see a woman living in a neighboring village suffering from repeated vomiting of pregnancy. She was 24 years old; puberty had occurred at 18; pregnant, at fourth month: she had had no previous illness. She commenced to vomit with the beginning of her pregnancy and was growing worse at this period. The vomited matter contained blood in great abundance. She was greatly

exhausted. Her skin was earthy, eyes sunken, pulse 120, temperature 38C°, urine scanty, non-albuminous. The ingestion, even the sight of a portion of food, or of a little water, would provoke painful, bloody vomiting. Nothing abnormal was found in the body of the uterus or its adnexa. The usual remedies were tried and failed. Before the adoption of extreme means, Choteau conceived the idea of employing suggestion. She was easily put to sleep by bi-ocular pressure, and the idea of cure suggested to her. She was told she could not vomit and ordered to eat and drink when she awoke.

The third day she was again made to sleep, and the idea of complete cure was suggested. From that time there was complete cessation of vomiting for fifteen days. Between the fifth month of pregnancy and labor some vomiting occurred now and then, but without gravity. The patient recovered her strength and was delivered at term of a vigorous child.—*Univ. Med. Mag.*

GYNECOLOGY.

THE ELECTRICAL TREATMENT OF ENDOMETRITIS.

Mandl and Winter (*Wiener klin Wochenschrift*, 1891, No. 52) report forty-four cases treated by intra-uterine galvanization. The anode was applied to the interior of the uterus, a current of from fifty to one hundred milliampères being used for five minutes. Two or three séances were sufficient to entirely control menorrhagia. If two periods passed without the former profuse flow the patient was regarded as cured, and was not treated further, but if no change was observed the applications were repeated several times at intervals of a few days. In cases of endometritis complicated by peri- and parametritis and disease of the adnexa the cathode was also applied for the purpose of relieving pain and causing absorption of inflammatory exudates. The tension faradic current was also found to be valuable as an analgesic. Twenty-two patients, who were under observation from three to eighteen months, were cured. In fourteen cases there was chronic disease of the adnexa and peri-uterine tissues, but recurrence of the inflammation was noted in only a single instance. The advantages claimed for the treatment are: 1. It can be safely practised at the office, an anæsthetic being unnecessary. 2. With a current of moderate strength applied for a short time the entire endometrium is canterized to a sufficient depth to promote granulation and restoration of healthy tissue, without the cicatrization observed after the use of strong currents, or of acid escharotics.—*Amer. Jour. Med. Sci.*

PESSARY WORN THIRTEEN YEARS.

D. T. Nelson (*Amer. Jour. Obstet.*, January, 1892) exhibited last summer before the Gynæcological Society of Chicago a pessary which had been worn for thirteen years. The patient was a widow, aged 69, and the pessary had been introduced for falling of the womb. There had been a bloody discharge from the vulva for two years, during which period she had used warm water douches. For the eleven previous years she had employed nothing but ordinary soap and water for external bathing. The pessary was a "Hodge" of the open, horseshoe variety. When removed, the right-hand angle of the horseshoe was behind the sphincter of the vagina, embedded in the mucous membrane, and the right limb of the instrument presented in the vulva. The left limb was just anterior to the cervix and sunk in the mucous membrane; by pressure and ulceration it had passed through the muscular structure of the vagina, and was so firmly fixed that it could not be extracted without force. Nelson stated that he had disinfected the fœtid instrument with a preparation sold under the name of sulpho-naphthol, apparently a form of creolin, but only half the cost of the compound so called. It had completely removed the bad smell.—*Brit. Med. Jour.*

PORRO'S OPERATION FOR PELVIC CONTRACTION DUE TO OSTEO-MALACIA.

After mentioning the indications for Porro's operations Everke, of Bochum, (*Deutch. med. Woch.*, January 28th, 1892) says that osteo-malacia is the most frequent and important of such indications. He relates the following successful case. After the sixth pregnancy, five years previously, the patient had pains in her limbs and difficulty in getting about. These symptoms became worse during the seventh pregnancy, the latter half of which she had to spend in bed. The labor was tedious,

but otherwise normal. She kept her bed during the whole of the eighth pregnancy, at the end of which the pelvis presented the characteristic deformities. Porro's operation was then performed. The pains gradually diminished and in five months she could walk without assistance. In one year and a quarter she could go long distances without inconvenience. The author says that this case shows that the operation should be performed (at the time of labor), and that it is to be preferred to Cæsarean section with oöphorectomy, since (1) there is no object in leaving the uterus; (2) three wounded surfaces are left in the abdomen in the latter case, and (3) there is no fear of hæmorrhage if the uterus be removed. The question of treating the stump is then discussed, the author preferring the extraperitoneal method.—*Brit. Med. Jour.*

PEDIATRICS.

THE TREATMENT OF CHOREA IN THE HOSPITALS OF PARIS.

Marcel Beaudoin (*Revue de Therapeutique Medico-Chirurgical*, April 1, 1892), after consulting the physicians of the hospitals of Paris, publishes the different opinions expressed regarding the treatment of chorea.

In ordinary cases, See recommends antiyprin and arsenic as the best remedies. In rheumatic cases, the salicylate of sodium, according to this author, should be associated with the antipyrin and sulphur baths. In cardiac choreas, to the heart remedies should be added the administration of iodide of potassium, and especially the iodide of calcium.

Gilbert Ballet believes that common chorea tends to a spontaneous cure, and that, therefore, all disturbing medication should be withheld. He condemns antipyrin, but recommends arsenic (Fowler's solution in small doses, that is, from six to twelve drops a day, according to the age of the patient), tonics and iron in anæmic cases. In serious cases he advocates the local application of ether to the vertebral column, and the bromides in patients laboring under psychical troubles. Above all, the author advises hygiene, a good alimentation, and walking in the open air, avoiding fatigue.

According to Dejerine all special medication in infantile chorea is useless. He recommends tonics, massage, gymnastic exercises, dry frictions, salt-baths, and particularly insists on the application of good hygienic measures.

In mild cases, Joffroy attaches particular importance to allowing children to sleep as long as possible; in such instances he is wont to employ daily doses of from 1 to 1.75 grammes of chloral, according to the age of the patient. Fatigue, as well as all physical and mental excitement, should be avoided. In serious cases he believes that antipyrin is useless, and he then resorts to the application twice a day of wet cloths.

Antipyrin has given the best results in the hands of Albert Robin. He combines this drug with bicarbonate of sodium, and gives it in as high a dose as two grammes a day. After fifteen days' use the antipyrin is substituted by the arseniate of sodium in doses of two teaspoonfuls a day, of a solution of five centigrammes to 300 grammes of water. This solution finished, is followed by the re-administration of the antipyrin.

Raymond thinks that only two remedies are to be relied upon in the treatment of chorea; chloral and antipyrin; he has seen acetanilid do good in some cases.

Sevestre believes in the use of both antipyrin and arsenic. The first medicament is administered in doses of from one to two grammes, and even three and four grammes a day. He employs, at the same time, Fowler's solution in daily amounts of from six to twelve drops, or a solution of the arseniate of sodium (five centigrammes in 250 grammes of water) in doses of two to three dessertspoonfuls a day.

Massage, according to Ollivier, has given satisfaction in the treatment of choreic patients. This author also prescribes, as a general medication, iron, arsenic and hydrotherapy.

D'Heilly recommends hygienic measures, tonics and prolonged sleep. In slight cases he thinks that such remedies as arsenic, iron, bitters and baths are sufficient. In more serious cases he resorts to antipyrin and chloral as the best drugs.

Antipyrin is likewise highly recommended by Legroux in doses of four grammes per day. In hysterical cases the bromides and cold douches have given him the best results.

Comby insists on the application, *firstly*, of a moral and physical hygiene; *secondly*, in the sedation of the system by bromide of potassium, in daily doses of from two to four grammes, and the use of cold douches. If no amelioration follows this treatment, antipyrin, in daily amounts of from two to three grammes, should be resorted to.

Jules Simon gives the following points: (1) During the first fifteen days the child is to lie in bed, and revulsion applied over the upper part of the back, by warm frictions, mustard plasters or dry cupping, and the use of aconite and hemlock. (2) After this time, the child is made to get up, and then antipyrin should be administered in progressive doses of one, two, three, four and five grammes in the course of the twenty-four hours; this medicament to be continued for several weeks. (3) This period, especially when the movements are sluggish, should be followed by rhythmical gymnastics. The same author prescribes, at the same time, the least exciting tonics, auch as salt-baths, dry frictions, etc.; but a stay at the seaside is condemned.—*Univ. Med. Mag.*

HYGIENE.

HOW LONG SHOULD A CONVALESCENT FROM DIPHTHERIA BE ISOLATED?

Prince (*Boston M. and S. Journ.*, 1891, cxxv., 691.) writes of a case, the patient was supposed to be well, and made a visit to a relative in Boston nine days from the date of his "getting up." One week after his arrival a child in the family was attacked with diphtheria and died. An outbreak of diphtheria in a hotel at Nantucket followed the arrival of a person just recovered from diphtheria and pronounced well by the attending physician. One of these cases, when supposed to be well, carried it to a hotel in town. Three cases of diphtheria in one family, closely followed the advent of a nurse who had just come from attendance on a fatal case.

I think that evidence goes to show that poison is retained in the mucous membrane longer than is generally considered to be the case. In lieu of definite knowledge I have adopted the arbitrary rule of advising quarantine precautions for one week after the patient appears to be perfectly free from disease. This seems to be a fairly safe rule and one that is desirable.

EXPERIMENTAL RESEARCHES ON THE TRANSMISSION OF CANCER.

After a series of experiments on various animals Duplay (*Gazette des Hopitaux*, No. 23.), draws the following conclusions:—(1) Cancerous neoplasms are not transmissible from man to animals; (2) contrary to what was expected from the results of other experimenters, only negative results were obtained as to the transmission of cancer from one animal to another of the same species, after a lapse of time varying from three to eight months; still until more experiments have been made, and under more favorable conditions, no definite conclusion is arrived at; (3) cancer is not transmissible from one animal to another of a different species; (4) the results do not permit the denial of its parasitic nature, whilst at the same time they do not enable the author to affirm it. This question remains, then, undecided.

A NEW METHOD FOR THE DETECTION OF TUBERCLE BACILLI IN MILK.

Ilkewitch (*Muncher medicinische Wochenschrift*, February 2, 1892) describes a new method for the detection of tubercle bacilli in milk, which is founded on the fact that tubercle bacilli will be precipitated by rapid centrifugal motion. He uses a modified lactocrit, which has 3,600 revolutions a minute. Twenty ccm. of milk are coagulated by means of dilute citric acid, The whey is separated by filtration. The casein is dissolved with phosphate of soda solution. To this are added six ccm. of sulphuric ether, mixed with water, in order that the emulsified fat corpuscles may be set free. The action of the ether is hastened by shaking the mixture in a glass cylinder for fifteen minutes. The solution is allowed to stand, and after the fat has separated, the remainder of the liquid is allowed to run out. Dilute acetic acid is added to this until the first sign of coagulation. It is then transferred to the lactocrit, and the machine set in motion for fifteen minutes. The vast majority of the bacilli then sink to the bottom. This deposit is then conveyed to two slides, stained and examined with an oil immersion. If bacilli were present in the milk they will be found almost surely in this precipitate. The author considers this method more certain than the inoculation of animals with the suspected milk.—*Univ. Med. Mag.*

MEDICAL CHEMISTRY.

LÉVOISNE.

M. Tanret (*Rèpertoire de Pharmacie*, No. 8) has succeeded in isolating a new hydro-carbon, lèvoisne, from cereals. He experimented successfully on rye, barley, and oats. To "lèvoisne" M. Tanret has given the formula C_{48} H_{40} O_{40}, the same formula as amidon and dextrine. It turns the plane of polarized light to the left, hence the name; it is of a white color, amorphous, insipid, soluble in water, very soluble in dilute alcohol, sparingly so in the strong liquid. It does not reduce copper and is not affected by alkaline solutions.

ESTIMATION OF SMALL QUANTITIES OF STRYCHNINE.

At a meeting of the Chemists' Assistants' Association, held at London on March 17th, Mr. R. H. Davies presented a modification of the old method of testing for strychnine with potassium bichromate and sulphuric acid, which had been first worked some years previously by the lecturer, in conjunction with Mr. Oscar Echenstein, for estimating minute quantities of strychnine. Mr. Davies described the usual method of applying the test on a white slab, treating the bichromate and strychnine separately with sulphuric acid, and then drawing the two together, when the characteristic play of colors is produced. A more efficient method, as he demonstarted, is to make a very dilute solution of potassium bichromate in strong sulphuric acid, and then add the strychnine in solution to this in a test tube, when the reaction can be easily observed. The first colors produced soon disappear, giving place to a reddish-orange which is fairly persistent; and it was by means of this color they endeavored to estimate the quantity of strychnine under examination by a process similar to Nesslerizing. Mr. Davies showed a series of these tests, comprising the plain solution of bichromate in strong sulphuric acid, and similar quantities of the solution with $\frac{1}{1000}$, $\frac{1}{100}$, and $\frac{1}{10}$ gr. of strychnine added. A very distinct difference between them was observable, and it was evident that it was quite practicable, by comparing with a solution of strychnine of known strength, to get an approximate idea of the amount of the alkaloid present.—After *Chem. and Drugg.*

NEWS AND MISCELLANY.

DOCTORS OF PHARMACY.

The University of Munich has created a new degree—Doctor of Pharmacy—which will be granted after a course of seven semesters and examination in one principal subject, chemistry or botany, and in three secondary subjects, namely: mineralogy, physics, and zoology. An inaugural dissertation must also be presented.

RECTAL MUSIC.

The members of the Surgical Congress which has just risen at Paris were invited to witness the performances of a "physiological curiosity," in the person of a man who rejoices in the ability to aspirate large quantities of air or water *per rectum*. Seated in a hip-bath he can by a voluntary effort draw two or three quarts of water into the large intestine, and some idea of the muscular strength called into play is afforded by the fact that this fluid can be ejected to a distance of from five to seven yards as the crow flies. A close examination of the "subject" showed that the aspiration is performed in the following way:—The diaphragm being fixed by a deep inspiration, the glottis is closed, and all the extraordinary muscles are called into play. This produces a dilatation of the lower part of the thorax. At this moment the epigastric region yields to the pressure of the external air and becomes markedly concave, the iliac fossæ following suit. The condition of negative pressure thus created causes an inrush of air through the anus, the aspiratory effect being carried a step further by the action of the diaphragm on the lower ribs, which are pulled upwards and outwards. The man first discovered his peculiar talent when a lad, his attention having been called to it by the involuntary passage into the intestines of large quantities of sea-water when bathing. Since then he has cultivated it, and for some years past has made—not exactly a decent, but an ample livelihood, by rendering musical airs at various places of public amusement in the Modern Babylon. To the astonishment of the surgeons he imitated a number of musical instruments—the trombone, the human bass voice (non-articulate) the violin, &c., and with sufficient talent and accuracy to render the selection of airs perfectly recognizable.—*Med. Press.*